

ENGINEERED PERFORMANCE STANDARDS

BOOK NUMBER - 10

PLUMBING/PIPEFITTING



<u>CHAPTER</u>	<u>DESCRIPTION</u>	<u>PAGE</u>
010	DEVICES: Dirt or drip POCKETS, TRAPS, STRAINERS (Remove,Clean,Test& Install)	1
020	DEVICES: Expansion & slip Joints (Remove,Repair & Install)	5
030	DEVICES: Regulators & Valves(Remove,Clean,Repair,Test & Install)	9
040	FIRE FIGHTING SYSTEMS: Hydrants & sprinkler systems (Remove,Clean,Repair,Test& Install)	17
050	HEATING EQUIP.: Radiators, unit HEATERS (Remove, Repair,Test& Install)	22
060	HEATING EQUIP.: Tanks (HOT WATER HEATERS) (Remove,Clean,Repair,Test& Install)	26
070	INSULATION: Fittings (Install)	29
080	INSULATION: Duct (Install)	31
090	INSULATION: Pipe muslin & fiberglass (Install)	32
100	INSULATION: Pipe thermal & rubber (Install)	34
110	ASBESTOS: Abatement/Encapsulation (Preparation, Removal, Disposal)	35
120	INSULATION: Fitting & duct (Remove)	38
130	MISCELLANEOUS: Airhose,hydros, pipe supports, sewer line flush, ship's water hook-up, water cooler & ice machine	39
140	PIPE: Cast Iron bell & spigot, (Install)	43
150	PIPE: Cast Iron bell & spigot, (Remove/ Replace)	46
160	PIPE: Cast Iron flanged joints gaskets (Install,Replace)	48
170	PIPE: Cast Iron hubless sewer pipe & fittings; (Install,Remove,Replace)	50
180	PIPE: Clay hubless pipe & fittings; (Install,Remove,Replace)	52
190	PIPE: Clay vitrified; (Install,Remove,Replace)	54
200	PIPE: Concrete (Remove,Install,Replace)	56
210	PIPE: Copper Tubing (Install fittings)	57
220	PIPE: Flanged Joints (Install,Remove)	59
230	PIPE: Iron & Steel (cut, ream & thread)	66
240	PIPE: Plastic Pipe (ABS or PVC) & fittings (Install,Replace to3"ID)	68

250	PIPE:	Plastic Pipe (ABS or PVC)& fittings (Install,Repl.,3"to 6"ID)	71
260	PIPE:	Pressurized Water Pipe (class 22) (Instl.,Rmv.,Repl. to 4"ID)	73
270	PIPE:	Pressurized Water Pipe (class 22) (Instl.,Rmv.,Repl.,5"to10"ID)	75
280	PIPE:	Threaded pipe,fittings & supports; (Instl.,Rmv.,Repl.)	77
290	PIPE:	Threaded miscellaneous; (Cut,Fabricate,Install)	79
300	PIPE:	Sewer&Water Transite Pipe & Fittings (Instl.New)	81
310	PIPE:	Sewer&Water Transite Pipe & Fittings (Insert,Rmv.,Repair)	82
320	PLUMBING FIXTURES:	Wash basins, bathtubs, showers & fixtures (Inspect,Rmv.Clean,Repair&Instl.)	84
330	PLUMBING FIXTURES:	Service sinks, urinals, closet bowls, etc. (Rmv.Clean,Repair&Instl.)	89
340		Additional time for use of portable scaffolding or ladder.	97
350	FUEL ACCESSORIES:	pump, nozzles, hoses, fuel pits. (Calibrate and Replace)	98

EPS SUPPLEMENTAL DATA
CRAFT DELAY ALLOWANCE, JOB PREPARATION

CRAFT	JOB PREP	CRAFT DELAY SINGLE	ALLOW. MULTI
BOILER WORK	.4	23	33
CARPENTRY - GENERAL	.3	15	20
CARPENTRY - ROOFING	.6	20	25
COOLING/VENT/REFER.	.3	15	18
ELECTRICAL & ELECTRONIC	.3	16	20
HAZARDOUS WORK (ADD TO JP)	.2	--	--
HEATING	.3	17	21
JANITORIAL	.3	11	13
MACHINE SHOP	.3	23	24
MACHINE REPAIR	.4	28	36
MASONRY - GENERAL	.4	15	20
- W/ PURCH. CONC.	.4	19	22
MOVING AND RIGGING	.3	28	40
PAINT - GENERAL	.2	16	17
- SPRAY	.2	17	19
PEST CONTROL	.3	14	17
PIPEFITTING - INTERIOR	.3	15	20
- EXTERIOR	.3	18	25
PLUMBING - INTERIOR	.3	17	20
- EXTERIOR	.3	15	20
ROADS & GRNDS - GENERAL	.3	16	20
- LABORERS	.3	15	20
SHEETMETAL	.3	15	20
STRUC IRON & WELD - FIELD	.3	17	20
- SHOP	.6	17	22
TRACKAGE	.4	--	22
WHARFBUILDING	.5	24	32

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: DEVICES:   Dirt or Drip Pockets,   Traps & Strainers
: NOTE      : (A) See QT-998 & QT-999 for portable scaffolding & ladder
:            : (B) * = ID fitting size ; example- *1"= 1" ID fitting
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TASK TIME STANDARDS LISTING

QT 004	*2"	DRIP POCKET		(Remove,Clean & Reinstall)
QT 011	*2"	DRIP POCKET		(Cut& Install in line)
QT 003	*1"	TRAP	Thermodynamic	(Clean parts& Reassy)
QT 002	*1"	TRAP	Thermostatic	(Disassemble,Clean & Reassemble)
QT 012	*1"	TRAP	Air Separators w/auto	(Clean)
QT 008	*2"	TRAP	From line	(Replace)
QT 009	*2"	TRAP	Steam thermodynamic	(Test on test rack)
QT 016	*2"	TRAP & BY-PASS		(Install, Cut into line)
QT 015	*2"	TRAP	bucket-type	(Rmv.,disassy,Clean,Assy.,Instl)
QT 340		TRAP	Thermostatic float	(Disassemble,Clean & Replace)
QT 010	*12"	TRAP BUCKET	Steam	(Disassemble,Clean & Reassemble)
QT 131		TRAP	float-type-Steam or Pressure regulator	(Test on test rack)
QT 013	*2"	VALVE or STRAINER		(Cut,& Install)
QT 001	*1"	STRAINER	Y-type	(Replace)
QT 014	*2"	STRAINER	Y-type in ironpipe	(Cut out Section all hand tools)
QT 006	*2"	STRAINER	Y-type screen	(Remove,Clean & Reinstall)
QT 005	*2"	STRAINER	Bell-type	(Disassemble,Clean & Reassemble)
QT 007		STRAINER	Clean large	(Fabricate & Install new Gasket)

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 004 Remove, clean, and reinstall drip pocket 2" fitting. (INCLUDES) Turn valve off and on, remove pocket and cap, clean pocket, and install pocket/cap.

000.18301 hours per drip pockets to clean

QT 011 Cut into existing steam line and install drip pocket 2" ID pipe. (Includes) Turn valve off and on, cut and thread line remove pipe sections, remove support nuts and install, remove and install support, install pipe section and drip pocket union assembly, connect union.9-1987

000.54591 hours per drip pockets to install

QT 003 Disassemble thermodynamic trap, clean components and reassemble 1" ID fitting. (INCLUDES) Turn valves off/on. Remove cap. Remove and install disk. Clean cap, disk and parts. Install cap. Inspect assembly.9-1987

000.15258 hours per thermodynamic traps to clean

QT 002 Disassemble thermostatic trap, clean parts and reassemble 1" fittings. (INCLUDES) Turn valve off/on. Remove cap. Remove washer assembly. Remove strainer. Clean screen, valve and seat. Install washer assembly. Install cap.9-1987

000.19247 hours per thermostatic traps to clean

QT 012 Clean air separators with automatic trap, 1" Dia. fittings. (Includes) Remove and install nuts, remove and install bolts remove cover, float, casing and screen, and replace, clean all parts test for leaks.9-1987

000.49246 hours per air separators to clean

QT 008 Remove trap from line and install new trap, 2" fitting. (Includes) Turn valve off/on, disconnect nipples from trap assemble trap and nipples, install assembly in line, material handling.9-1987

000.38290 hours per traps to replace

QT 009 Test thermodynamic type steam trap on test rack, 2" fitting. (Includes) Change nipple on steam line, attach regulator to steam rack, attach nipple and elbow for steam deflection, open and close steam line valves, adjust line regulator to desired pressure, check regulator operation and check for leaks, remove nipple and elbow, remove regulator.9-1987

000.50354 hours per thermodynamic to replace

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 016 Cut into existing line and install trap and by-pass. (Includes) Turn valve on/off, cut pipe ream and thread ends, remove pipe sections, assemble pipe sections and fittings, position assembly, inspect work, material handling.9-1987

001.22991 hours per traps or by-passes to install

QT 015 Remove bucket trap from line, disassemble, clean all parts, reassemble and reinstall in line. 2" ID pipe. (Includes) Turn valves on/off, disconnect unions, connect unions, remove bolts and install, remove and install cover, remove float and gasket and install, clean inside of trap, clean cover, plug, float, and valve seat, make new gasket, material handling.9-1987

000.76498 hours per bucket traps to clean

QT 340 Disassemble thermostatic trap,remove mechanism,clean casing and install new mechanism,3/4" size.(Includes)Turn valve off/on. Remove/install 6 screws on trap cover.Remove/install seat assembly.ball assembly,air pass seat(bellows)on cover.Clean cover.Assemble seat assembly./ball assembly. 14 parts.Remove/install lower plug, strainer.Material handling.9-1987

000.42712 hours per float traps to rebuild

QT 010 Disassemble bucket steam trap, clean parts and reassemble 1" ID fitting. (Includes)Turn valves on and off, remove 4 screws from cover, remove lower plug, cap, gasket, float and strainer. Clean trap, clean cover bucket and strainer, install strainer, float gasket and cap, install screws, install plug, material handling 9-1987

000.39194 hours per steam traps to clean

QT 131 Test float-type steam trap or pressure regulator on test rack.

000.73981 hours per pressure valves to test

QT 013 Cut into existing line and install valve or strainer up to 2" ID (Includes) Measure for location 2 men, cut pipe, ream & thread end, remove pipe section 2 men, connect nipples to fitting. Attach unions, install unit into position, connect unions, open and close valve, inspect work, material handling.9-1987

000.81950 hours per valves or strainers to install

QT 001 Remove old/install new screen in 1"Y-type strainer. (INCLUDES) Turn valves off and on. Remove plug and install. Remove screen and install new screen. Clean screen seat.9-1987

000.07603 hours per strainer screens to replace

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 014 Cut out section of pipe in existing line and install "Y" type strainer. 2" ID iron pipe, all hand tools. (Includes) Assemble strainer 2 nipples and union, turn valves off and on, cut 2" pipe hand cutters disconnect pipe section, cut ream and thread end, install assemble in line material handling, measure for location 2 men.9-1987

000.82433 hours per y-type strainers to install

QT 006 Remove screen, clean and reinstall in Y-type strainer, 2" fitting. (INCLUDES) Turn valves off & on, remove plug, remove screen and reinstall, clean screen, screen seat plug, reinstall plug, material handling, inspect parts.9-1987

000.16033 hours per strainer screens to clean

QT 005 Disassemble, clean, and reassemble bell-type strainer, 2" fitting. (INCLUDES) Remove nuts, bolts, holder and strainer. Clean holder, strainer, install bolts, nuts and turn valve on/off. Inspect assembly.9-1987

000.17040 hours per bell-type strainers to clean

QT 007 Clean large strainer, make and install new gasket. (INCLUDES) Turn valve on/off, remove and install end plate bolts, remove end plate, remove/install screen, clean holder, make gasket install gasket.9-1987

000.23856 hours per strainers to clean

DEVICES: Expansion & slip Joints
(Remove,Repair & Install)

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: DEVICES: Expansion & Slip Joints
: NOTE : (A) See QT-998 & QT-999 for portable scaffolding
:       & ladder use respectively.
:       (B) * = ID fitting size ; example- *1" = 1" ID fitting
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TASK TIME STANDARDS LISTING

QT 017	*2"	SLIP JOINT	Repack	(Repack)
QT 018	*2"	EXPANSION JOINT	Riser-type	(Install new Nipple& Union)
QT 019	*2"	EXPANSION JOINT	Riser-type	threaded (Replace)
QT 020	*2"	EXPANSION JOINT	Riser-type	internally guided (Repack)
QT 023	*2"	EXPANSION JOINT	threaded	cut into existing line (Install)
QT 022	*4"	EXPANSION JOINT	Assy.	flanged ends,baseplate (Install) bolted to support
QT 021	*4"	EXPANSION JOINT	Assy.	flanged ends,baseplate (Remove) bolted to support
QT 027	*4"	EXPANSION JOINT	Assy.	cut existing line,thread (Install) install flanges
QT 024	*4"	EXPANSION JOINT	Assy.	transversed flanged (Repack) gland,4 bolt type
QT 026	*4"	EXPANSION JOINT	Assy.	double transversed flanged (Repack) gland,4 bolt type
QT 025	*5"	EXPANSION JOINT	Assy.	single transverse flg. (Install)gland, 8 bolt-type
QT 030	*6"	EXPANSION JOINT	Assy.intrench	single traverse flg-type, (Install) in existing line
QT 029	*14"	EXPANSION JOINT	Assy.	double traverse flg-type, (Repack) 4&8 bolt gland
QT 028	*14"	EXPANSION JOINT	Assy.	double traverse flg-type (Repack) 4 & 8 bolt gland
QT 344	*6"	SADDLE	Water Pipe	tape of transite pipe (Install)

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 017 Repack slip joint 2" ID. (Includes) Disconnect union, clean gland area, pack joint with new rings, connect union, inspect joint. 9-1987

000.20216 hours per slip joints to repack

QT 018 Install expansion joint, riser type, threaded 2" ID (Install new nipple and union). (Includes) Install nipple on joint, install union on pipe and nipple, position joint to pipe, tighten union connection, turn 2 valves on, check and inspect work, move material armload. 9-1987

000.27179 hours per expansion joints to install

QT 019 Remove old and install new expansion joint, riser type, threaded 2" ID. (Includes) Turn valve on/off, disconnect/connect union compress and expand joint, connect joint, remove and position joint assembly, install nipple, remove nipple, move material armload, check and inspect work. 9-1987

000.40310 hours per expansion joints to replace

QT 020 Repack riser type expansion joint, internally guided, 2" ID.. Turn valve off/on, disconnect joint union, open packing joint remove old packing, measure and cut packing, clean packing area pack joint, close packing joint, connect packing joint union. 9-1987

000.42197 hours per expansion joints to repack

QT 023 Cut into existing 2" ID line and install expansion joint, threaded. (Includes) Cut, ream and thread pipe, remove pipe section, install pipe section, install expansion joint, nipples and union, compress and expand joint, turn valves off/on, inspect work, material handling. 9-1987

000.65496 hours per expansion joints to install

QT 022 Install expansion joint, flanged type, 4" ID, baseplate bolted to support. (Includes) Move material (CWT.), install expansion joint, install nuts on baseplate bolts, expand joint for fit, make two gaskets, install gaskets, turn 2 valves on, check and inspect work. 9-1987

000.58453 hours per expansion joints to install

QT 021 Remove expansion joint assembly, 4" ID flanged ends, baseplate bolted to support. (Includes) Turn 2 valves off, remove expansion joint assembly, remove flange gasket, compress expansion joint, loosen and remove baseplate nuts, remove baseplate bolts, move material. 9-1987

000.46967 hours per expansion joints to remove

QT 027 Install flanged expansion joint in existing line, 4" ID, include cut, thread pipe & install flanges. (Includes) Turn valves off on, disconnect and remove pipe section, cut and thread pipe on 1 end, remove flange end, install flange end, install pipe section and expansion joint, install anchor bolt nuts, make two gaskets, material handling (CWT.)9-1987

001.31932 hours per expansion joints to install

QT 024 Repack single traverse flanged expansion joint, 4" ID (Bolted gland- 4 bolt type). (Includes) Remove packing gland nuts, remove gland bolts, move gland open, remove old packing, measure and cut packing ring, pack joint with new rings, close packing gland install packing gland bolts, install gland nuts, clean gland area.9-1987

000.70431 hours per expansion joints to repack

QT 026 Repack double traverse expansion joint, flanged type, 4" ID (gland, 4 bolt type). (Includes) Turn valve off/on, remove packing gland nuts/bolts, move gland open, remove old packing rings, clean gland area, measure and cut packing rings, pack joint with new rings, close packing gland, install packing gland bolts/nuts.9-1987

001.34166 hours per expansion joints to repack

QT 025 Repack single traverse expansion joint, flanged type, 5" ID (gland - 8 bolt type). (Includes) Turn valves off/on, remove packing gland nuts/bolts, move gland open, remove old packing rings, clean gland area, measure and cut packing rings, close packing gland, install packing gland bolts/nuts.9-1987

000.98847 hours per expansion joints to repack

QT 030 Install single traverse expansion joint (flanged) in existing line 6" ID - in trench, does not include make/install support. Move material/tools, cut pipe ream/thread end, remove flange section, install flanges to pipe, install nuts on baseplate bolt make 2 gaskets, compress/expand joint proper fit, connect flange to joint, turn valves on/off, inspect work, in/out ditch, walk.1987

001.71476 hours per expansion joints to install

QT 029 Repack double traverse expansion joint, flanged type, 14" ID bolted gland - 8 bolt type, and 4 bolt type. (Includes) Remove packing gland nuts/install, unscrew tie rods and install, move tie rods and install, move gland open and install, remove old packing rings, measure and cut packing rings, move material, check and inspect work.9-1987

001.68098 hours per expansion joints to repack

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 028 Repack double traverse expansion joint, flanged type 14" ID or over. Bolted gland -8 bolt type. (Includes) Remove packing gland nuts and install, unscrew tie rods and install, remove washers and install, move tie rods and install, move gland open/close, remove old packing, measure and cut new packing, material handling, inspect work, turn valves off and on. 9-1987

001.66835 hours per expansion joints to repack

QT 344 Install water main saddle clamp tap, 6" transite pipe. Excavation not included. (Includes) Turn valve on/off. Pick up/aside small tools. Clean pipe surface with wire brush. Position saddle clamp/remove. Level clamp on pipe. Mark location of clamp on pipe. Cut hole in pipe with ballpeen hammer. Position clamp on pipe. Install 2 clamp rings/4 nuts. Hammer clamp into position. Level clamp.

000.65605 hours per saddle clamps to install

DEVICES: Regulators & Valves(Remove,Clean,Repair,Test
& Install)

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: DEVICES: Regulators & Valves
: NOTE : (A) See QT-998 & QT-999 for portable scaffolding
:       & ladder use respectively.
:       (B) * = ID fitting size ; example- *1" = 1" ID fitting
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TASK TIME STANDARDS LISTING

QT 345	*3/4" VALVE	Relief-pressure bench test (Test)
QT 998	VALVE-spring	Relief-pressure in dismantled unit (Replace)
QT 035	VALVE	Relief-pressure Adjust to proper pressure (Adjust, or Calibrate)
QT 040	VALVE	Relief-pressure (Clean Valve & Adjust)
QT 036	REGULATOR valve	Stuffing Box Pressure regulator valve (Clean & Repack)
QT 052	*1" REGULATOR valve	Pressure-water/air inclds. cut, ream, (Install) thread 2 pipe sect
QT 048	*2" REGULATOR VALVE	Temperature threaded ends (Replace)
QT 043	REGULATOR VALVE	DIAPHRAGM inclds. adjust & check & (Replace) repack stuffing box
QT 047	*2" REGULATOR VALVE	Threaded ends (Install)
QT 039	*2" REGULATOR VALVE	Pressure includes balance lines (Remove)
QT 044	*2" REGULATOR VALVE	threaded ends inclds. new balance pipe (Replace) & adjust spring
QT 045	*2.5" REGULATOR VALVE	Flanged-ends pressure valve; inclds. (Install) new union & bal. line
QT 050	*2.5" REGULATOR VALVE	Flanged ends includes removing (Remove) balance lines
QT 371	*3/4"-2" BACKFLOW DEVICE	(Install) pipe hangers & solder installation
QT 031	*2" VALVE	Valve stem bonnet-type valve (Remove & Install)
QT 046	*2" VALVE	Gate-type inclds. cut pipe & remove (Remove) stem assemble
QT 370	*1" VALVE	Gate-type (Install)-into existing system-w/solder joints
QT 049	*2" VALVE	includes remove threaded (Replace) bonnet & install pipe

QT 041	VALVE	GLAND	Large bolted (Repack)
QT 037	*3" VALVE	Screwed gland	(Repack)
QT 042	*3" VALVE	2ea SCREWED GLAND-type	(Repack 2 each on line)
QT 033	*4" VALVE	Hand Wheel	(Replace)
QT 034	*4" VALVE	Check Valve	Includes relpace gasket (Clean & Overhaul)
QT 053	*4" VALVE	Flange-type	(install)
QT 051	*5" VALVE	Steam or Water	flanged ends,in manhole (Remove)
QT 038	VALVE Automatic	Air control	valve-dry sprinkler sys. (Clean & Ajust)inclds.rpl.g
QT 054	*10" GATE VALVE	Underground	inclds.burn 20 nuts & (Clean & Service) bolts
QT 055	*10" VALVE	Steam & Water	flanged ends,in manhole (Remove & Install & Adjust)
QT 358	1.5" to 2.5" VALVE	OPEN OR CLOSE	includes walk
QT 359	1.5" to 2.5" VALVE	OPEN AND CLOSE	includes walk
QT 360	3" to 6" valve	OPEN OR CLOSE	includes walk
QT 361	3" to 6" valve	OPEN AND CLOSE	includes walk
QT 362	1.5" to 2.5" valve	OPEN OR CLOSE	includes walk and climb into/out of hole
QT 363	1.5" to 2.5" valve	OPEN AND CLOSE	includes walk and climb into/out of hole
QT 364	3" to 6 " valve	OPEN OR CLOSE	includes walk and climb into/out of hole
QT 365	3" to 6" valve	OPEN AND CLOSE	includes walk and climb into/out of hole
QT 349	Test valve,	BACK FLOW-prevention	test kit
QT 350	Test valve,	BACK FLOW-prevention device,	test kit (Double check valve)

QT 345 Bench test high pressure relief valve/domestic water heater 3/4" valve.(Includes)Pick up sm.tools/aside.Clean valve w/wirebrush file.Install/remove pressure relief valve on test stand with pipe wrench.Turn test stand valve on/off.Test high pressure limit with manually operated in line pump.Ignite and shut off test boiler.Test high temp. limit.Check press.& temp. gauges.

000.46128 hours per relief valves to test

QT 998 General time for use of portable scaffolding. Does not include initial setup.
Based on moving scaffolding 10ft per occurrence and climbing up and down one time.

000.03009 hours per occurrences you use portable scaffold

QT 035 Adjust relief valve to proper line pressure. (Includes) Adjust valve for line pressure, loosen lock nut on regulating screw, adjust, regulating screw, turn pressure on and off, tighten couplings, tighten lock nut, final check.9-1987

000.21146 hours per relief valves to adjust

QT 040 Clean relief valve/adjust line pressure.(Includes)Turn valves on /off, remove cap, loosen lock nut, regulating screw, remove spring, spring case, ball valve. Clean valve seat, valve ball assembly. Install ball valve, spring, spring case. Adjust valve for line pressure, adjust regulating screw. Tighten couplings, luck nut. Final check, install cap.9-1987

000.48817 hours per relief valves to clean

QT 036 Clean and repack stuffing box on pressure regulator valve.
(Includes) Turn valve off/on, unscrew stuffing box nut, remove packing gland, remove old packing, clean box, measure and cut new packing, install new packing, install packing gland, install stuffing box nut, final check, material handling.9-1987

000.27381 hours per stuffing boxes to repack

QT 052 Install water and air pressure regulating valve in existing line - 1" ID. (Includes)Turn valves off/on, cut pipe in two, measure for installation of valve, remove pipe from line, cut, ream and thread pipe, remove and install pipe to line, install 2 unions, install valve, move material.9-1987

000.71639 hours per pressure valves to install

QT 048 Remove/install temperature regulator valve from line, 2" ID threaded ends. Turn valve off/on, remove nut from bulb & bulb assembly from wall. Disconnect unions, remove/install valve unroll capillary tube and assemble bulb in well, connect unions inspect, move material and tools.9-1987

000.40752 hours per temperature valves to replace

QT 043 Remove/install diaphragm in pressure regulator valve, repack stuffing box. (Includes) Turn valve off/on, adjust by-pass valve disconnect/connect union at balance line. Remove/install 10 nut /bolts diaphragm case, diaphragm case, nut, washer, and diaphragm. Remove packing gland, packing. Measure/cut packing. Install packing, gland, adjust range spring/required load, test valve.1987

000.67643 hours per diaphragms to replace

QT 047 Install temperature regulator valve, 2" ID, threaded ends. (Includes) Move material (armload), install valves, connect unions, unroll tube and assemble in wall, check and inspect, turn 2 valves on.9-1987

000.27222 hours per temperature valves to install

QT 039 Remove pressure regulator valve, 2" ID, thread ends. Includes balancing of lines. (Includes) Turn steam off/on 3 valves, adjust by pass valves, disconnect union at balance line, remove balance line, disconnect unions at valve ends, remove valve, move material.9-1987

000.39186 hours per pressure valves to remove

QT 044 Remove/install pressure regulator valve, 2" ID, threaded ends. Valve on/off, adjust by-pass valve, disconnect union, connect union at balance line, remove/install balance line pipe from valve, disconnect unions at valve ends, connect 2 unions at valve ends. Remove/install pipe at valve ends, remove/install valve, adjust range spring to required load, move material. 198

000.89128 hours per pressure valves to replace

QT 045 Install pressure regulator valve, 2.5" ID, flanged ends. (Includes) new union and balance lines. Turn steam on/off, adjust by-pass valve, connect union at balance line, install balance line to valve. install flanged valve, clean pipe/valve flanges, apply gasket to flanges, install flange gasket, adjust range spring to required load, move material, test valve.9-1987

000.87856 hours per pressure valves to install

- QT 050 Remove pressure regulator valve, 2-1/2" ID, having flanged ends. (Includes) Turn valves off, disconnect union of balance line, remove balance line pipe from valve, remove flange fittings, remove gaskets, move material. 9-1987
- 000.43338 hours per pressure valves to remove
- QT 371 BACK FLOW PREVENTION DEVICE, INSTALL.
Install built up configuration of (1) back flow prevention device, size/range 3/4" thru 2" dia. INCLUDES: all dimensions of device, measure wall area/ceiling, install (2) pipe hangers, install gate valve, secure device to yoke of hangers. (Soldered components, 14 joints)
- 001.72379 hours per Back Flow Prevention Device
- QT 031 Remove and reinstall valve stem assembly of bonnet type valve 2" ID. (Includes) Turn valves off and on, unscrew bonnet ring remove and install assembly, install bonnet ring. 9-1987
- 000.04216 hours per valve stems to replace
- QT 046 Remove gate valve, 2" ID, from line. (Includes) Turn valves off, unscrew stem assembly to provide clearance, remove stem assembly cut pipe, disconnect 2 unions, remove one section pipe, remove valve, screw stem assembly to body, move material. 9-1987
- 000.29724 hours per gate valves to remove
- QT 370 Install a 1" gate valve on existing 1" copper pipe. INCLUDES: contact tenants, turn on and off water, drain adjacent pipes, cut, clean and solder valve into position.
- 000.33752 hours per valve
- QT 049 Remove/install valve in line, 2" ID remove threaded bonnet for clearance. (Includes) Valve on/off, disconnect/connect unions nipples, remove 1 section pipe, unscrew stem assembly from valve remove stem assembly, install new valve, install stem assembly to new valve, screw bonnet into valve, install 1 section pipe. Move material. 9-1987
- 000.48125 hours per valves to replace
- QT 041 Repack large bolted gland valve. (Includes) Remove/install hand-wheel nut, handwheel, packing gland nuts, packing gland. Remove packing. Measure/cut new packing, pack valve, remove gland nuts and install, install packing gland nuts, final check, material handling. 9-1987
- 000.48649 hours per gland valves to repack

QT 037 Repack 3" screwed gland valve. (Includes) Valve on/off, remove packing nut, handwheel screw, handwheel, packing gland, measure and cut new packing, remove old packing, install new packing, packing gland, handwheel, handwheel screw, and packing nut. Test action of valve. Material handling.9-1987

000.26895 hours per gland valves to repack

QT 042 Repack two valves on line, 3" ID, screwed gland type. (Includes) Turn valve off/on. Remove packing nut, handwheel screw, handwheel, packing gland. Install packing, packing gland, handwheel handwheel screw, packing nut. Test action of valve, material handling.9-1987

000.52262 hours per sets of gland valves to repack (1 set has 2 valves)

QT 033 Remove broken hand wheel on valve 4" ID and install new. (Includes) Remove locknut & install, remove key, remove hand wheel, install key, install hand wheel.9-1987

000.11675 hours per hand wheels to replace

QT 034 Clean and overhaul 4" check valve. Includes removing old and installing new gasket. (Includes) Turn valve off and on, remove cap and install, remove disc nut and install, remove disc pin and install, remove gasket and install, remove swinging disc and install, clean valve chamber valve disc and valve seat.9-1987

000.15911 hours per check valves to overhaul

QT 053 Cut into and install flanged valve into existing 4" ID line. (Includes) Turn valve off/on, remove pipe section, remove on flanged end, cut and thread pipe end, install flanged pipe end, make three gaskets, put graphite on gaskets, install gaskets, install pipe section and valve, material handling.9-1987

001.43604 hours per flanged valves to install

QT 051 Remove steam or water valve from 5" line, flanged ends, located in manholes. (Includes) Turn 2 valves off, remove/install 3 man hole covers (2 men), disconnect and remove flanged fitting, remove flange gasket, move material, up or down fixed ladder in manhole (per 5 feet) extra walking.9-1987

000.61284 hours per steam or water valves to remove

QT 038 Clean and adjust auto. air control valve, dry sprinkler system. (Includes) removing/installing gasket. Remove/install 2 bolts valve, pin. Clean pin, pin facing. Remove/install gasket nut, gasket. Clean gasket seat, make gasket and adjust control.9-1987

000.37471 hours per air valves to clean

- QT 054 Clean and service 10" gate valve located underground.
(Included) Turn valves off/on, hand burn 20 nuts/bolts and remove, free stem discs and spreaders, remove/install valve head overhaul, clean and lubricate working parts, make two gaskets, apply graphite to flanges and gaskets, install gaskets, 20 bolt and 20 nuts, repack valve.(Not Included) Digging time.9-1987

001.58116 hours per gate valves to clean
- QT 055 Remove/reinstall steam or water valve in 5" line with flanged ends. In manhole. (Includes)Turn valve on/off, remove valve from line, remove gasket, clean pipe/valve flanges, make 2 gaskets, apply graphite to gaskets/flanges, install valve to line and gaskets, adjust setting of valve, move material, remove/install 3 manhole covers (2 men),Climb up/down ladder,extra walking.198

001.95791 hours per steam or water valves to replace
- QT 358 Valve, walk to/return from valve, open or close small valve, size range, 1.5" to 2.5".

000.00368 hours per valves
- QT 359 Valve, walk to/from valve, open and close small valve, size range 1.5" to 2.5".

000.00682 hours per valves
- QT 360 Valve, walk to/return from valve, open or close large valve, size range, 3" to 6".

000.00360 hours per valves
- QT 361 Valve, walk to/from valve, open and close large valve, size range 3" to 6".

000.01115 hours per valves
- QT 362 Valve, open or close, walk to/from and climb into/out of hole. Size range, 1.5" to 2.5".

000.01367 hours per valves
- QT 363 Valve, open and close, walk to/from and climb into/out of hole. Size range, 1.5" to 2.5".

000.01682 hours per valves

QT 364 Valve, open or close, walk to/from and climb into/out of hole.
 Size range, 3" to 6".

 000.01583 hours per valves

QT 365 Valve, open and close, walk to/from and climb into/out of hole.
 Size range, 3" to 6".

 000.02114 hours per valves

QT 349 Valve test, back flow prevention device-residual pressure valve
 test. The purpose is to check valves against reverse flow using
 a test kit.

 000.18672 hours per test

QT 350 Valve test, back flow prevention device/residual pressure
 double check valve test. The purpose is to check valves for
 tightness against reverse flow.

 000.37344 hours per test

FIRE FIGHTING SYSTEMS: Hydrants & sprinkler systems

(Remove,Clean,Repair,Test& Install)

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: FIRE FIGHTING SYSTEMS wet/dry: Inspect & Maintain
: Note : See QT-998 & 999 for portable scaffold & ladder.
: Task Includes: Open high point valve/close post indicator valve.
: Perform maintenance on post indicator valve.
: Open drain valve & close alarm valve. *CONTINUED
: Remove valve cover plate, alarm face plate, old gasket.
: Clean valve flange & cover flange & make new flange gasket.
: Perform maintenance on sprinkler system alarm.
: Install flange gasket, valve face plate & cover plate.
: Remove equalizing check valve cover, old gasket, ball check &
: flange surfaces. Clean valve interior & Flush . Install ball
: check, new gasket& check valve cover.Remove damper valve nuts,
: cover&gasket. Clean equalizer plug chamber, strainer & screens.
: Flush orifice & reinstall equalizer, strainer, gasket & cover
: plate.Remove bell type drawline air vent, valve & clean.
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TASK TIME STANDARDS LISTING

QT 072	VALVE-bell-clapper	Dry Sprinkler Alarm	(Clean clapper)
QT 056	HYDRANT-gasket	Cap connection	1.5"-4.5" hydrant (Replace)
QT 057	HYDRANT	Flush & Lub	(Flush & Lubricate)
QT 068	SPRINKLER SYS.	Average of 30 heads	wet or dry (Inspect)
QT 058	HYDRANT	Cap gasket	unit has flanged (Replace) joint
QT 059	HYDRANT	Cap or Bonnet Assembly	all types (Remove & Reinstall)
QT 060	HYDRANT	Control Valve Stem on stuffing box gland.	(Repack)
QT 061	HYDRANT	Valve & Stem Assy.	cover assy.to barrel by (Replace)lock or shield nut
QT 062	HYDRANT	Valve & Stem Assy.	cover assy.to barrel by (Replace) flanged joint
QT 071	HYDRANT-maint.	Siamese hydrants, Standpipe, on deluge or dry tank	(Maintenance)sprinkler sys.
QT 063	HYDRANT-service		w/cover assy.to barrel by (Service) locknut
QT 064	HYDRANT	Upper barrel cylinder	(Replace)
QT 069	DRY SPRINKLER SYS.	Incl'd. Alarms & Control Valves	

			(Maintenance & Testing)
QT 065	HYDRANT	w/cover assy.to barrel by nut	no packing
			(Maintenance & Overhaul)
QT 066	HYDRANT	w/cover assy.to barrel by flanged joint	
			(Service)
QT 067	HYDRANT	w/cover assy.to barrel by flanged joint	
			(Maintenance & Overhaul)
QT 070	SPRINKLER SYS.	Wet or Deluge	
			(Maintenance)
QT 404	SPRINKLER SYS.	Wet or Deluge	
			(Install)
QT 405	SPRINKLER SYS.	Wet or Deluge	
			(Replace)
QT 351	HYDRANT-rmv&cap	Dig Backhoe/shovel	cut 6"pipe cutters/gas
			(Remove and Cap)
QT 351	HYDRANT-remove & cap	(6" pipe, backhoe digs and backfills)	
QT 352	HYDRANT-install	(preperation and new installation)	
QT 357	HYDRANT-replace	(removal and new installation)	

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 072	Clean bell clapper on dry sprinkler alarm valve. (Includes) Remove/install screws, pin, clapper, clean clapper.9-1987
	000.11541 hours per bell clappers or sprinkler valves to clean
QT 056	Remove/install gasket on 2-1/2" or 4-1/2" hydrant cap connection (Includes) Unscrew 2-1/2" cap, remove gasket, make gasket, install gasket, install 2-1/2" cap.9-1987
	000.18529 hours per gaskets to replace
QT 057	Flush 1 fire hydrant and lubricate. (Includes) Flush hydrant, includes lub.9-1987
	000.28802 hours per fire hydrants to flush
QT 068	Inspect wet or dry sprinkler system. (Includes) Inspect water pressure gauges. Test fire alarm on wet/dry sprinkler systems. Motor, exposed and inspect. Inspection visual, medium part. NOTE: Average of 30 sprinkler heads per system.9-1987
	000.31471 hours per sprinkler systems to inspect
QT 058	Remove old and install new top cap gasket on fire hydrant flanged joint. (Includes) Disconnect flanged joint gap, remov old gasket, install gasket, install cap.9-1987
	000.34102 hours per gaskets to replace

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

- QT 059 Remove/reinstall fire hydrant cover, cap or bonnet assembly, (All types). Remove lock or shield nut, remove/install flange cover assembly, clean around stem nut, move material (armload), install lock or shield nut.9-1987
- 000.37306 hours per hydrant covers to replace
- QT 060 Repack fire hydrant control valve stem or stuffing box gland. (Includes) Remove valve cap 4 1/2" or 2 1/2", remove stem nut gland bolts, and gland. Remove packing rings, clean gland area, measure and cut packing, pack gland new rings, install gland, gland bolts, new stem nut, valve cap.9-1987
- 000.55960 hours per control valves or stuffing boxes to repack
- QT 061 Remove/install valve and stem assembly in fire hydrant, type with cover assembly secured to barrel by lock nut/shield nut. (No ditch time). (Includes) Shut water supply off/on. Remove lock nut, cover assembly, valve and stem assembly from barrel. Move material (CWT.). Install new valve and stem assembly in barrel. Install cover assembly, lock nut, and check valve operation.1987
- 000.58011 hours per hydrant valves to replace
- QT 062 Remove/install valve and stem assembly in fire hydrant (type with cover assembly secure to barrel by flange joint).(Includes Shut water supply off/on, disconnect flange bolts, remove cover Remove valve and stem assembly from barrel cylinder, move material (CWT.). Install new valve and stem assembly from barrel cylinder, Install cover, bolts and test valve operation.9-1987
- 000.63376 hours per hydrant valves to replace
- QT 071 Perform maintenance on floor or wall type siamese hydrants, standpipes serving wet, or deluge sprinkler systems or dry system tanks. (Includes)Maintenance of hydrants,inspect clean, and lub. Open/close valves, flush sprinkler system clean extra walk between water supply valve and hydrant.Pump H2O into sprinkler or system tanks,check pressure of water gauge.9-1987
- 000.86409 hours per siamese standpipes to maintain
- QT 063 Service damaged fire hydrant assembly (type with cover assembly secure to barrel by lock or shield nut). (Includes) Shut water supply off/on. Remove/install cover or cap assembly, and service hydrant, inspect clean, lub., and flush. Remove valve and stem assembly from barrel cylinder, remove broken barrel. Install new lower/upper barrel, valve stem assembly, use winch truck return.8
- 001.25264 hours per fire hydrants to service

- QT 064 Remove broken upper barrel cylinder of fire hydrant and install new. Remove/install valve stem assembly, remove barrel flange nuts, bolts, barrel, gasket. Fabricate gasket, install new gasket, install bolts, install barrel, and nuts.9-1987
- 001.35241 hours per barrel cylinders to replace
- QT 069 Maintenance and testing of dry sprinkler system. (Including alarms and controls valves). Maintenance of post indicator valve or dry pipe valve, clean, inspect, lub. Maintenance of fire and sprinkler alarm bells. Bleed water from dry system pipes, pump air into dry sprinkler system. Inspect pressure of air gauge, check valve or nozzle operation, test alarms on dry system.9-198
- 001.18091 hours per sprinkler systems to maintain and test
- QT 065 Repairs/maintenance of fire hydrant, (cover assembly secured to barrel by lock/shield nut).(No packing) Shut water off/on, routine maintenance, clean, inspect, lub., flush. Remove/install valve/stem assembly, 2 nuts/washers, 2 gaskets, seat ring. Move material (CWT). Clean parts, make 2 gaskets, check stem, seat ring, and valve. Graphite parts, test valve, use winch/crane.9-1987
- 001.48301 hours per fire hydrants to service
- QT 066 Service damaged fire hydrant (type has cover assembly secured to barrel by flange joint). Water on/off. Remove/install cover ass and service hydrant, inspect, clean, lub., flush. Remove/install valve/stem assembly from/in barrel cylinder. Disconnect/remove broken upper/lower barrel with sling. Fab. and install 2 gasket. Install upper/lower barrel, use winch truck and return.9-1987
- 001.57063 hours per fire hydrants to service
- QT 067 Overhaul repairs and maintenance of fire hydrant, (cover assy. secured to barrel by flange joint). Water off/on. Maintenance, clean, inspect, lub., flush. Remove/install valve/stem assembly 9-1987
- 001.80057 hours per fire hydrants to overhaul
- QT 070 Perform maint. on wet/deluge sprinkler system. (Includes) Remove valve, install valve & drain line. Disconnect unions to remove retarding chamber. Remove bolts chamber support bracket, chamber cover, gasket, diaphragm. Install diaphragm, gasket, chamber cover. Reconnect unions to install retarding chamber. Remove chamber valve cover. Clean flange surface. Remove damper device. Flush val
- 003.69165 hours per sprinkler systems to maintain

- QT 404 Install wet/deluge sprinkler system. (Includes)
Install deluge sprinkler head and pipe from existing manifold
1/2" Dia., measure, cut, thread and install pipe/sprinkler head

000.17329 hours per sprinkler head
- QT 405 Replace wet/deluge sprinkler system. (Includes)
Replace existing deluge sprinkler head, 1/2" Dia., remove old
sprinkler head, dope pipe threads, replace with new sprinkler
head.

000.03099 hours per sprinkler head
- QT 351 Fire hydrant removal: Remove and cap hydrant, dig with backhoe,
worker digs with shovel from around main and cleans pipe in
preparation for cutting. Worker cuts hydrant from main with pip
cutters(occ.50%) or worker cuts pipe from hydrant with acetylen
(occ.50%). Backhoe and sling hold hyd./removes, backfills hole.

001.67155 hours per hydrant
- QT 351 Fire hydrant removal: Remove and cap hydrant, dig with backhoe,
worker digs with shovel from around main and cleans pipe in
preparation for cutting. Worker cuts hydrant from main with pip
cutters(occ.50%) or worker cuts pipe from hydrant with acetylen
(occ.50%). Backhoe and sling hold hyd./removes, backfills hole.

001.67155 hours per hydrant
- QT 352 Fire hydrant new installation:prepare new fire hyd. and position
with backhoe. Secure new hydrant to main pipe with gasket and
locking flange. Splice addl. 3ft section of pipe to main with
lead, (occ.50%). Shore up hydrant with wood block, backhoe dump
load of drainage rock and backfills/rough dresses area.

002.16489 hours per hydrant
- QT 357 Fire hydrant removal and new installation: Dig with backhoe and
shovel, clean and cut pipe with cutters (50% occ.) or with
acetylene torch (50%occ.). Position hydrant with sling, remove
old hydrant. Position new hydrant/backhoe, secure hydrant to
main with gasket/locking flange.Splice addl. section pipe w lea
(50%)shore up w blocks, drainage rock,backfill/rough dress area

003.37703 hours per fire hydrant

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: HEATING EQUIPMENT : Radiators, Unit Heaters.
: NOTE : See QT-998 & QT-999 for portable scaffolding &
: ladder use respectively.
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TASK TIME STANDARDS LISTING

QT 074	RADIATOR HAND-WHEEL	(Replace)
QT 073	VALVE-radiator vent	key operated w/auto venting
		(Replace) valve
QT 075	BELLOWS in radiator thermostatic trap	(Replace)
QT 076	RADIATOR COVER for fin-type radiator	(Remove, Clean, Reinstall)
QT 077	RADIATOR cast iron type,	wt. 50 to 200 lbs.
		(Replace)
QT 078	RADIATOR TRAP Thermostatic trap	includes replacing
		(Replace) trap spud
QT 080	RADIATOR-fin-type	including trap, strainer
		(Install) & valve
QT 085	RADIATOR-fin-type	valves, strainer or trap
		(Replace) not included
QT 090	RADIATOR-fin tube type	includes element valve &
		(Replace) steam trap
QT 381	RADIATOR-PER-SECTION	USING PRESS & new push nipple joints
		(Assy.)
QT 091	RADIATOR-6-section	using press & new push nipple joints
		(Disassy. & Assy.)
QT 095	RADIATOR-20-section	includes instl. new bottom &
		(Disassy. & Assy.) push nipples
QT 079	SPACE HEATER use forklift,	Electrical work not
		(Remove) included
QT 081	SPACE HEATER removed for repairs	use lift
		(Reinstall unit returned)
QT 082	STEAM UNIT HEATER prep only for welding repairs	(Disassy., Clean, Assy.)
QT 091	RADIATOR-6-section	using press & new push nipple joints
		(Disassy. & Assy.)
QT 382	Radiator	(Install)

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

- QT 074 Remove broken radiator valve hand wheel and install new.
(Includes) Remove luck nut or screw and install. Remove han
wheel, install hand wheel, check work.9-1987

000.06117 hours per hand wheels to replace
- QT 073 Remove old and install new key operated radiator vent valve
with automatic venting valve. (Includes) Turn valve off/on,
remove old valve and install new, inspect new valve.9-1987

000.05846 hours per vent valves to replace
- QT 075 Remove/install new bellows in radiator thermostatic trap.
(Includes) Turn valve off/on. Remove/install cap, gasket,
bellows, and bellows nut.9-1987

000.09860 hours per bellows to replace
- QT 076 Remove clean and reinstall cover for fin type radiator.
(Includes) Remove screws, cover, clean cover, install cover
screws.9-1987

000.13467 hours per radiator covers to clean
- QT 077 Remove or install radiator, cast iron type, weighing 50 to 200
pounds. (Includes)Turn 2 valves on or off, disconnect or connec
unions. Remove/install radiator (CWT).9-1987

000.28860 hours per cast radiators to remove or install
- QT 078 Remove/install thermostatic trap on radiator. (Includes) Turn
valve on/off. Disconnect union and trap, remove trap spud from
radiator, remove nipple. Remove/install spud and nipple on
radiator. Install trap on radiator and connect union, inspect.
9-1987

000.34056 hours per thermostatic traps to replace
- QT 080 Install fin-type radiator, including trap, strainer and valve.
(Includes) Install inlet nipples into radiator, radiator valv
tail piece, outlet elbow on radiator, nipples on elbows, valve,
strainer, trap, and radiator. Connect unions, move material,
check and inspect work.9-1987

000.60908 hours per fin-type radiators to install
- QT 085 Remove old/install new fin-type radiator. Does not include valve
strainer or trap. (Includes)Turn valves off/on, disconnect valv
unions. Remove radiator and radiator valve tail piece and
nipples from radiator. Install nipples from radiator, radiator
valve tail piece, radiator. Connect unions on outlet and valve,
check and inspect. Move material.9-1987

000.86803 hours per fin-type radiators to replace

- QT 090 Remove/install wall type fin tube radiator. (Includes) Remove and install screws from radiator cover. Remove/install cover. Valves off/on. Disconnect unions to tube, remove valve, coupling. Remove/install old steam trap. Install valve, couplings, tail piece, unions. Move radiator, material. Check and inspect. 9-1987
- 001.87742 hours per fin-type radiators to replace
- QT 381 Assembly of radiator per section using push nipple joints. (Includes) Remove nut from draw bolts, draw bolts, and old push nipples. Clean joints, lub. joints. Assemble nipples to section assemble sections, secure assembly 2 men. Install draw bolts, nuts, check and inspect.
- 000.21997 hours per assembly
- QT 091 Disassemble/assemble six sections of radiator using new push nipple joints (use press). (Includes) Remove nut from draw bolts draw bolts, and old push nipples. Clean tapered joints, lub. joints. Assemble nipples to sections, assemble sections, secure assembly-2 men. Install draw bolts, nuts, check and inspect. 9-1987
- 001.82362 hours per radiators (6 sections) to disassemble and assemble
- QT 095 Disassemble 20 section radiator. Install new bottom, push nipples & reassemble. (Includes) Remove nuts from draw bolts draw bolts, old push nipples. Clean tapered joints, lub. joints. Assemble nipples to section, sections, secure assembly-2 men. Install 2 draw bolts, 4 nuts, check and inspect. 9-1987
- 004.49955 hours per radiators (20 sections) to replace bottom
- QT 079 Remove space heater, use fork lift, electrical work is not included. (Includes) Turn valve off/on. Disconnect unions, supports, condensate line. Fork lift to heater and return, (200 ft.). Raise fork lift to position and lower, remove heater or install, move material. 9-1987
- 000.42128 hours per space heaters to remove
- QT 081 Install space heater that has been removed for repair. Use lift. (Includes) Fork lift to position and return (200 ft.) Raise lower fork lift to position heater, position heater. Connect supply line unions and condensate line. Turn lines on, inspect all connections, material handling (cwt). 9-1987
- 000.62777 hours per space heaters to install

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 082 Prepare (disassemble, clean, assemble) leaking steam unit heater for welding repairs (in shop or outside shop). Does not include welding time. (Includes) Remove nuts, bolts, 4 section housing. Check mechanism for repair, clean before weld, check mechanism after repair, assemble housing, bolts, nuts, material handling (cwt). 9-1987

000.67499 hours per steam heaters to prepare

QT 091 Disassemble/assemble six sections of radiator using new push nipple joints (use press). (Includes) Remove nut from draw bolts draw bolts, and old push nipples. Clean tapered joints, lub. joints. Assemble nipples to sections, assemble sections, secure assembly-2 men. Install draw bolts, nuts, check and inspect. 9-1987

001.82362 hours per radiators (6 sections) to disassemble and assemble

QT 382 Install Radiator on Wall. (Includes) Measure and mark wall, radiator and 2 lengths of pipe for layout. Install couplings, valve, thread 1 end of each pipe, bend/cut pipe to adapt to inlet/outlet of radiator and weld opposite ends to water source & drill 3 anchors & attach brackets.

001.74195 hours per Radiator

000.08192 hours per Job

HEATING EQUIP.: Tanks (HOT WATER HEATERS)

(Remove,Clean,Repair,Test& Install)

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: HEATING EQUIPMENT: TANKS
: NOTE: See QT-998 & QT-999 for portable
: scaffolding & ladder use respectively.
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TASK TIME STANDARDS LISTING

QT 084	HOT WATER HEATER gas	30 Gallon	
			(Replace)
QT 088	HOT WATER HEATER gas	30 Gallon	no painting or
			(Overhaul) external insul
QT 083	HOT WATER HEATER gas	30 Gallon	thermostat-/couple,pilot
			(Service-clean,chk-adjust)
QT 086	HOT WATER HEATER gas	30 Gallon	
			(Service-clean)
QT 087	HOT WATER HEATER gas	30 Gallon	inclds clean
			(Replace) check components
QT 089	HOT WATER HEATER elec.	80 Gallon	adjust relief
			(Drain & Flush)
QT 092	HOT WATER generator tank		does not inc.drain etc.
			(Cleaning Prep.Only)
QT 093	HOT WATER HEATER elec.	80 Gallon	inclds-uncrate unit &
			(Replace) insulate piping
QT 094	HOT WATER HEATER conv.	150 Gallon	coil unit
			(Clean & Scrape)
QT 096	HOT WATER HEATER conv.	650 Gallon	drain/refill not incld.
			(Clean & Scrape)extra dirty
QT 366	Heaters, Hot Water install and remove, 30gal. thru 1200 gal.		

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 084 Remove old 30 gallon hot water heater and install new heater, gas fired type. (Includes) Check operation of old tank. Remove old heater, install new heater. Material handling, check after installation. 9-1987

000.82401 hours per water heaters to replace

QT 088 Overhaul 30 gallon gas fired hot water heater, no painting or external insulation. (Includes) Remove/install hot water heater. Remove thermostat, check and install. Remove burner, clean and install. Remove burner door and install. Remove/install asbestos to burner door. Drain and refill tank, turn valve off and on. 9-1987

001.84283 hours per water heaters to overhaul

QT 083 Service 30 gal. gas fired hot water heater, adjust and reinstall components. (Includes) Check operation of tank. Remove thermostat, check and install. Remove main burner, clean and install. Remove pilot and thermocouple, clean, and install. Check tank. 9-1987

000.75320 hours per water heaters to service

QT 086 Clean and service 30 gallon gas fired hot water heater. (Includes) Turn valve off/on. Remove thermostat, check and install. Remove burner, clean and install. Remove pilot and thermocouple, clean and install. Remove burner door and install. Check after maintenance. Drain and fill tank (twice to flush). 9-1987

001.20942 hours per water heaters to service

QT 087 Remove/reinstall 30 gallon gas fired hot water heater. (Includes) Check operation of tank. Remove/install hot water heater. Remove thermostat, check and install. Remove main burner, clean and install. Remove pilot and thermocouple, clean and install. Material handling, check operation of tank components. 9-1987

001.63880 hours per water heaters to remove and install

QT 089 Drain and flush 80 gallon electric hot water heater. No element removed. (Includes) Turn valve off/on. Connect/disconnect hose. Fill and drain tank (twice to flush). Open/close drain cock. Move material. 9-1987

001.85380 hours per water heaters to drain and flush

QT 092 Prepare 1500 gallon water tank for cleaning. Draining, cleaning, scraping and refilling not included. Valves on/off. Extra walk-500pac. Remove/install relief valve, header bolts, manhole bolts manhole cover, coil nuts, and coil. Disconnect/connect unions an hose. Remove header, climb in/out tank. Make 4 gaskets. Graphit to flanges/gaskets, install gaskets, adjust heat range. Check. 198

002.15669 hours per water heaters to prepare

QT 093 Remove 80 gallon electric water heater and install new heater. (Includes) Valves off/on. Disconnect/connect drain hose, unions Drain/fill tank. Remove/install relief valve. Remove old heater and position new. Install 4 adapters for new heater. Install drain cock on heater. Material handling. Insulate supply piping fittings at heater. Uncrate water heater 12pcs. wood, 3 nails p

002.76738 hours per water heaters to replace

QT 094 Clean & scrape 150 gallon hot water tank. (Includes) Open/close valves. Remove nuts on coil, coil bolts, coil, gasket. Disconnect and connect unions, hose. Fill/drain tank, flush out tank -hose Clean coil faces, coil, inside of tank-scrape twice. Manufactur two gaskets. Install gasket, coil, bolts in coil, nuts on bolts Check work, move material, assemble/disassemble 2 pipe sections

003.19441 hours per water heaters to clean

QT 096 Scrape 650 gal. water heater, (extra dirty). Tank not drained or refilled. (Incl.) Valves on/off. In/out of tank. Material handle Remove/install header bolts, header, coil bolts, coil, manhole bolts, manhole cover. Clean header, flanges, scrape inside of tank twice (extra dirty)-234 sq. ft., wash inside tank-50 gal. Make/install 2 gaskets, graphite to flanges/gaskets, check work. 8

004.71555 hours per water heaters to clean

QT 366 Electric water heaters, remove old and install new heaters. Size range, 30 gals. thru 1200 gals. Includes uncrate heater and insulate supply piping. Additional material handling time or additional trades support should be applied to tanks 250 gals. and larger.

002.16005 hours per JOB SETUP TIME

000.00760 hours per gals.


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: INSULATION:  Fittings - Install
: NOTE      : (A) See QT-998 & QT-999  for portable scaffolding &
:             use respectively.(SEE DETAILS)
:             (B) * = ID of fitting ; example, *1" = 1" ID fitting
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TASK TIME STANDARDS LISTING

QT 097	*6"	LAGGING	1 Thickness	cover w/muslin & brush (Install) on cement
QT 098	*6"	LAGGING	2 Thicknesses	cover w/muslin & brush (Install) on cement
QT 099	ELBOWS	Fiberglass	45&90 Degrees	(Install)
QT 100	ELBOWS	Fiberglass	45&90 Degrees & Aluminum Jacket	(Install)
QT 101	ELBOWS	Fiberglass	45&90 Degrees & Steel Jacket	(Install)
QT 102	TEES,VALVES,ETC.	Fiberglass		items other than elbows (Install)
QT 103	TEES,VALVES,ETC.	Fiberglass	& Jacket of Alum.	items other than elbows (Install)
QT 104	TEES,VALVES,ETC.	Fiberglass	& Jacket of Steel	items other than elbows

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

- QT 097 Install lagging on fittings, single thickness, 6" ID. Cover with muslin and brush on waterproof cement. (Includes) Install single thick lagging. Material handling.9-1987
- 000.18555 hours per fittings to install insulation
- QT 098 Install lagging on fittings, double thickness, 6" ID. Cover with muslin and brush on waterproof cement. (Includes) Install insulation. Material handling.9-1987
- 000.27470 hours per fittings to insulate
- QT 099 Install sections of fiberglass insulation around elbow fittings-(90 degrees and 45 degrees). (Includes) Install insulation. Material handling.9-1987
- 000.14872 hours per fittings to insulate
- QT 100 Install sections of fiberglass insulation around elbow fittings-(90 and 45 degrees). Cover with an aluminum jacket. (Includes) Install insulation. Cover with jacket. Material handling.9-1987
- 000.43005 hours per fittings to insulate
- QT 101 Install sections of fiberglass insulation around elbow fittings-(90 and 45 degrees). Cover with a steel jacket. (Includes) Install insulation. Cover with jacket. material handling.9-1987
- 000.30522 hours per fittings to insulate
- QT 102 Install fiberglass insulation on fittings, (other than on elbow) such as tees & valves. (Includes) Install insulation. Material handling.9-1987
- 000.14872 hours per fittings to insulate
- QT 103 Install fiberglass insulation on fittings (other than on elbow) such as tees and valves. Cover with an aluminum jacket. (Includes) Install insulation. Cover with jacket. Material handling.9-1987
- 000.43005 hours per fittings to insulate
- QT 104 Install fiberglass insulation on fittings (other than on elbow) such as tees & valves. Cover with a steel jacket. (Includes) Install insulation. Cover with jacket. Material handling.9-1987
- 000.30522 hours per fittings to insulate

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:
:  INSULATION:  Install on Duct
:  NOTE       :  See QT-998 & QT-999 for portable scaffolding &
:              ladder use respectively.
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:
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TASK TIME STANDARDS LISTING

QT 105	2" ROCKWOOL-4ft sections 20"x14"x4" duct,	paper-wire-coat w/
		(Install) mastic
QT 106	FIBERGLASS BLANKET rectangular duct	(Install)
QT 107	FIBERGLASS BLANKET rectangular duct	with aluminum backing (Install)

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 105	Install 4ft section of 20" x 14" x 4" rectangular duct, 2" insulation (rockwool). Paper, wire, and coat with mastic. (Includes) Install insulation. Material handling.9-1987
	000.79278 hours per 4' sections of duct to insulate
QT 106	Install fiberglass blanket on sections of rectangular duct. (Includes) Install insulation. Material handling.9-1987
	000.28947 hours per sections of duct to insulate
QT 107	Install aluminum backed fiberglass on sections of rectangular duct. (Includes) Intall insulation. Material handling.9-198
	000.25674 hours per sections of duct to insulate

```

:
:  INSULATION:      (Bonded Muslin or Fiberglass)  Install on Pipe
:  NOTES          : (A) Install insulation in 3 foot sections.
:                  QT-108 thru QT-111 includes brush on waterproof
:                  cement & installation of metal bands.
:                  QT-112 thru QT-114 insulation has avapor*CONTINUED
:                  & a self-seal lap.
:                  See QT-998 & QT-999 for portable scaffolding &
:                  ladder use respectively.
:                  (B) * = fitting ID ; example *3" = 3" ID fitting
:
:
:

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TASK TIME STANDARDS LISTING

QT 108	*6"	Pipe	MUSLIN-Single Thickness	factory bonded (Install)
QT 109	*4"	Pipe	MUSLIN-Double Thickness	factory bonded (Install)
QT 110	*6"	Pipe	MUSLIN-Caulk w/Lagging	factory bonded (Install)
QT 111	*6"	Pipe	MUSLIN-Double Thickness	factory bonded (Install) Caulk w/Lag
QT 112	*.5"-10"	Pipe	FIBERGLASS----without-Jacket	(Install)
QT 113	*.5"-10"	Pipe	FIBERGLASS-w/Aluminum-Jacket	(Install)
QT 114	*.5"-10"	Pipe	FIBERGLASS-with/Steel-Jacket	(Install)

- QT 108 Install 3ft sections of 6" I.D. pipe insulation, factory bonded muslin. Brush on waterproof cement and install metal bands. (Includes)Install L-section insulation.Material handling.9-1987
000.05902 hours per 3' sections of pipe to insulate
- QT 109 Install 3ft sections of 4" ID pipe with double thick insulation factory bonded muslin. Brush on waterproof cement and install metal bands. (Includes)Install insulation.Material handling 9-1987
000.07749 hours per 3' sections of pipe to insulate
- QT 110 Install 3ft sections of pipe insulation 6" ID, factory bonded with muslin. Caulk joints and seams with lagging, brush on waterproof cement & install metal bands. (Includes) Instal one section insulation. Material handling.9-1987
000.08963 hours per 3' sections of pipe to insulate
- QT 111 Install 3ft sections of 6" ID pipe insulation double thickness cover with muslin, coat with waterproof cement and install meta bands. (Includes) Install insulation (per section). Materia handling.9-1987
000.17370 hours per 3' sections of pipe to insulate
- QT 112 Install 3ft sections of fiberglass insulation, 1/2" to 10" ID pipe. (without jacket). (Includes)Install insulation.Materia handling.9-1987
000.14903 hours per 3' sections of pipe to insulate
- QT 113 Install 3ft sections of fiberglass insulation, 1/2" to 10" ID pipe. Cover insulated pipe with aluminum jacket. (Includes Install insulation. Install aluminum jacket. Material handling. 9-1987
000.37160 hours per 3' sections of pipe to insulate
- QT 114 Install 3ft sections of fiberglass insulation, 1/2" to 10" ID pipe. Cover insulated pipe with steel jacket. (Includes) Install insulation. Install steel jacket. Material handling. 9-1987
000.30553 hours per 3' sections of pipe to insulate

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:
:  INSULATION :      (Thermal Twill or Rubber)  Install on Pipe
:  NOTES      :      Install insulation in 3 foot sections.
:              :      QT-998 & QT-999 for portable scaffolding &
:              :      ladder  use respectively.
:
:
:

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TASK TIME STANDARDS LISTING

QT 115	THERMAL TWILL	without-----Jacket	(Install)
QT 116	THERMAL TWILL	with-Aluminum Jacket	(Install)
QT 117	THERMAL TWILL	with-Steel---Jacket	(Install)
QT 118	RUBBER	on-Refrigerated Pipe	(Install)
QT 119	RUBBER	Split-type	(Install)

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT	115	Install 3ft sections of thermal twill pipe insulation, (without jacket). (Includes) Install insulation. Material handling.9-198
		000.22275 hours per 3' sections of pipe to insulate
QT	116	Install 3ft section of thermal twill pipe insulation. Cover insulated pipe with aluminum jacket. (Includes) Install insulation. Install aluminum jacket. Material handling.9-1987
		000.44532 hours per 3' sections of pipe to insulate
QT	117	Install 3ft sections of thermal twill pipe insulation. Cover insulated pipe with steel jacket. (Includes) Install insulation. Install steel jacket. Material handling.9-1987
		000.37925 hours per 3' sections of pipe to insulate
QT	118	Install 3ft sections of rubber insulation on refrigerated pipe. (Includes) Install insulation. Material handling.9-1987
		000.15285 hours per 3' sections of insulation to install
QT	119	Install 3ft section split-type rubber insulation on refrigerated pipes. (Includes) Install insulation. Material handling.9-198
		000.13251 hours per 3' sections of insulation to install

ASBESTOS: Abatement/Encapsulation

(Preparation, Removal, Disposal)

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:
: ASBESTOS Abatement/Encapsulation:
: Tasks Include- Worker protection, preparing the work area,
:                 asbestos removal, waste disposal, clean up and
:                 lockdown.
: Note: See QT-998 & QT-999 for portable scaffold & ladder.
: Note: See GT-657 for HANG TEMPORARY LIGHTING, per 10 Lin. Ft.
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TASK TIME STANDARDS LISTING

QT 346	Preparation	Personnel, Protective Clothing, Respirator.
QT 394	Preparation	Rope off Asbestos work Area.
QT 397	Preparation	Install Microtrap Filter Unit.
QT 396	Preparation	Remove & Install Micro Trap Filters. (Primary & Secondary)
QT 384	Preparation	Hang Poly, Per Lin. Ft. of Perimeter of Opening/ Object. (Polyethelene Sheeting)
QT 402	Preparation	Build Asbestos Containment Area. 8'x7'x 8'high
QT 401	Encapsulation	Repair Asbestos Pipe Insulation, LAG-KLOTH Patch. (up to 4"x6" area)
QT 388	Disposal	Bag Asbestos Debris, Double Bags. (50 lbs. max per. Bag)
QT 398	Disposal	Place Poly Bag in Box, Req'd. for Sharp Edged Items. (50 lbs. max per Box)
QT 400	Abatement	Remove Asbestos Floor Tile, by Machine.
QT 395	Abatement	Remove Asbestos Shingles, by Hand.
QT 389	Abatement	Remove Asbestos Pipe Lagging, 3' section.
QT 348	Abatement	Remove Asbestos Pipe Lagging, Glovebag, 3' section. (up to 8" Dia.)
QT 390	Abatement	Remove Asbestos, Pipe and Lagging, 8' length. (1 1/4" thru 2 1/2" Dia.)

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

- QT 346 Personal preparation for asbestos removal. Includes- Obtain and dispose of disposable clothing, remove & redress in st. clothing don & removal of reusable clothing, respirator, unlock & lock locker, enter & exit contamination, enter & exit shower.
- 000.24968 hours per workers requiring asbestos removal preparation
- 001.00000 hours per days job is worked requiring preparation
- QT 394 Rope off asbestos area with red poly warning tape, (per 10 LF.) Includes- Drive wooden pole in ground, tie end of tape to pole. Walk ten ft., drive additional wooden pole in ground and tie tape.
- 000.04338 hours per per 10 LF
- QT 397 Install Micro Trap Filter Unit. (Abatement Technologies Hepa Air 2000 Filter Unit), or like filter unit. INCLUDES- position filter unit, cut ventilation flex hose to length & install, remove new manifold from package, position and tape, plug filter unit into electrical outlet.
- 000.11248 hours per units installed
- QT 396 Remove & Install Micro Trap Filters, in Abatement Technologies Hepa Air 2000 filter unit or like unit. Includes- spray amended water, remove/install primary/secondary filters, remove/install flex hose with tape.
- Note: Recommend QT-388 be used in disposal of asbestos debris in double poly bags.
- 000.15338 hours per Filters
- QT 384 Hang Poly, (Polyethelene Sheeting) Per Lin. Ft. of Perimeter of Opening/Object. Includes-get needed Tools/Materials, Cut/Position Poly, Spray Aerosol Adhesive on Perimeter of Poly and Object/Opening, and apply tape.
- 000.00867 hours per Lin. perimeter FT.
- QT 402 Build Asbestos Containment Area, 8ftx7ftx 8ft high. Includes- Cut lumber to length, assemble frame, cover with Poly add barrier door, glue and tape perimeter edges.
- 001.00046 hours per area of 8ft x7ft x 8'high
- QT 401 Repair/encapsulation of asbestos pipe insulation with "Lag-Kloth or like product. INCLUDES: cut to length, dip in water, hand apply to damaged area of asbestos insulation.
- 000.01176 hours per patches

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 388 Place asbestos in double poly bags and tape close, 50 lbs. per bag.

000.02247 hours per bags

QT 398 Place asbestos filled poly bag in box. INCLUDES: Assemble box, place poly bag in box, seal box with tape and apply I.D. to box

000.06440 hours per boxes

QT 400 Remove 10ftx10ft area, 100 sq. ft., of floor tile with Crain Carpet Stripper or like machine. INCLUDES: Apply 2 gals. of surfactant to floor, remove tile by machine, scrape floor, shovel loose tile into pile, sweep and vacuum area. Note: Recommend QT-398 be used in disposal of debris with sharp edges.

000.70619 hours per 100 square foot areas of removal

QT 395 Remove 100 square feet of asbestos siding shingles. Includes:
pry shingle loose, remove nails from shingle, remove tar paper
backing, spread drop cloth. Shingle removal is in tandem with
additional worker spraying shingles with water hose.

(No ladder time included)

001.11996 hours per 100 sq. ft. areas

QT 389 Remove 8" thru 12" Dia. Asbestos lagging insulation 3ft length from steam pipe. Includes- Removing tar paper shell, 3 metal retaining bands, cheese cloth layer and 2 split lag asbestos shells. Scrape surface of pipe and wire brush. Wet entire removal operation with hose. (3 men) Note: Recommend QT-398 be used in disposal of debris with sharp edges.

000.17208 hours per Ln. Yards

QT 348 Remove 3 feet of asbestos pipe insulation using polyethelene,
pipe enclosure sleeve. 2 men req'd.

NOTE: construction of sleeve not included see QT-347

000.18929 hours per JOB SETUP TIME

001.55069 hours per 3ft sections of pipe insulation to remove

QT 390 Remove 1 1/4" thru 2 1/2"Dia.asbestos insulated pipe,8ft lengths
.Includes-Spray amended water on insulation to be removed. Cut
asbestos insulation 2 places, cut pipe with portable power
reciprocating saw, 2 cuts. Remove 8' section, lay on poly and
roll in three layers, tape. (2 men)

000.33647 hours per per 8 Lin. Ft. rmvd

MISCELLANEOUS: Airhose,hydros, pipe supports, sewer line flush,
ship's water hook-up, water cooler & ice machine

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:
:           Miscellaneous:
: Air hose, water cooler, ship's water tanks hook-up lines,
: hydros, pipe supports, sewer line flush, 2" corporation stop.
: NOTE: See QT-998 and AT-999 for portable scaffolding and
:       ladder use respectively.
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:

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TASK TIME STANDARDS LISTING

QT 133	PIPE SUPPORTS-4 each	to wood or metal surface (Fabricate & Install)
QT 379	PIPE HANGER	(Fabricate)
QT 369	PIPE HANGER	3/8" allthread, butt plate, yoke clamp (Fabricate & install) in cement or block surface
QT 127	2"ID AIR HOSE	To existing compressed air outlet (Fabricate & Install)
QT 136	2" CORPORATION STOP	On Water Line under pressure (Install)
QT 128	WATER COOLER	drains, supply & cap (Remove/Disconnect)
QT 129	WATER COOLER	To existing supply & drain (Install & Connect)
QT 377	ICE MACHINE	To existing supply and drain (install & connect)
QT 378	ICE MACHINE	cut/crimp copper lines (remove/disconnect)
QT 130	SHIP TO SHORE-hookup	Watertank fillup hookup & unhook lines (Ship-Service Dockside)
QT 132	SHIP TO SHORE-hookup	Watertank fillup hookup & fill ships (Ship-Service) tanks
QT 137	TANK-200 gallon	Air Receiver (Test-Hydrostatic)
QT 138	TANK-246 gallons	Air Receiver 33 cu.ft. (Test/prepare,inspect,test)
QT 139	TANK-500 gallons	Air Reciever inclds.adjust relief (Test Hydrostatic) valve
QT 135	8" SEWER-average size	1 manhole system (Clean & flush)
QT 140	8" SEWER-average size	3 manhole system (Clean & Flush)
QT 134	8" SEWER-average size	Flush multiple manhole system (Flush with Hose)
QT 378	Ice Machine, remove ice	machine from plumbing.Turn off water,

cut tubing hack saw/crimp ends two, unplug machine.

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

-
- QT 133 Make and install (4) pipe supports or hangers to wood or metal surface. (Includes) Cut and thread rods. Install supports Material and tool handling.9-1987
- 001.43881 hours per pipe supports to install
- QT 379 1"-2" Pipe Hanger -- field modification and Install.
Includes : Cutting 3/8" allthread to length, deburr assemble allthread, butt plate and yoke clamp. Drilling two 3/8"d holes in masonry block and attaching with lead drives and bolts.
- 000.05401 hours per hangers
- QT 369 Pipe hanger, manufacture/install. Ladder used. Manufacture and install (1) pipe support or hanger in masonry block or cement. DESIGN=clevis SIZE=3/8"-1/2" ALL THREAD
INSTALL WITH=3/8" LEAD/plastic anchor, 2 each
INCLUDES:ladder, drilling 2 holes, assemble hanger and mount.
- 000.13420 hours per hanger
- QT 127 Fabricate and install air hose, 2" ID, to existing compressed air outlet. (Includes)Measure for hose length & cut.Install hose ferrules and hose adapters. Install nozzel to existing air inlet. Turn air on/off.9-1987
- 000.32726 hours per air hoses to install
- QT 136 Install 2" corporation stop on water line under pressure. (Includes) Clean pipe area to be tapped. Tap pipe under pressur and install after corporation stop. Inspect after installation of stop. Move material and tools.9-1987
- 002.52739 hours per corporation stops to install
- QT 128 Disconnect water cooler drains and water supply and cap open lines. Turn water off. Unscrew slip joint luck nuts on tap. Unscrew union on water line, move water cooler. Remove trap. Remove food line to wall. Install cap and plug on open lines. 9-1987
- 000.39738 hours per water coolers to disconnect
- QT 129 Install drinking water cooler to existing water supply and connect to drain. Turn water off/on. Unscrew plug from water supply and cap from drain. Move cooler into position. Screw sli joint lock nut onto trap. Position trap to drain, tighten lock nut. Install nipple on valve and union on nipple, connect union Inspect connections, test fountain.9-1987
- 000.43141 hours per water coolers to install

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

- QT 377 ICE MACHINE, install new ice machine to existing plumbing. Position ice machine, take measurements, cut tubing to length, assemble tubing/fittings with solder to water source and ice machine. Turn on water, plug in electrical power.
- 002.74614 hours per Ice machine
- QT 378 Ice machine, remove ice machine from plumbing. Includes turning off water sources, cutting copper tubing (up to 5/8") with hack saw twice, crimp ends of tubing with pliers, unplug machine.
- 000.08399 hours per Ice Machine
- QT 130 Hook up water lines from ship to shore to fill up ships water tanks & unhook when filled. (Includes) Provide lines and connect only for ship to shore hook-up; return and pick up hose 9-1987
- 000.58921 hours per water lines to connect
- QT 132 Hook up water lines and fill ships water tanks from shore supply. (Includes) Hook up water supply ship to shore & fill water tanks.9-1987
- 001.05826 hours per water lines to fill ship
- QT 137 Hydrostatic test of air receiver tank; 200 gallon capacity. (Includes) Connect/disconnect. Fill and drain tank. Pump pressure. Inspect tanks, clean and adjust relief valves. Fill out and attach tag.9-1987
- 003.38116 hours per air receivers to test
- QT 138 Prepare, inspect and test one large air receiver, 33 cubic feet, (approximately 246 gallons).(Includes)
- 003.93665 hours per air receivers to test
- QT 139 Hydrostatic test of air receiver tank - 500 gallon capacity. (Includes)Connect/Disconnect, fill & drain tank.Pump pressure Inspect tank. Clean and adjust relief valve. Fill out and adjust relief valve. Fill out and attach tag.9-1987
- 005.66116 hours per air receivers to test
- QT 135 Flush sanitary and storm sewer lines. Clean and flush one manhole system. Average 8" line.9-1987
- 002.45824 hours per sewer lines to flush

QT 140 Flush sanitary and storm sewer lines. Clean and flush three man-hole systems - average 8" line.9-1987

006.72618 hours per sewer lines to flush

QT 134 Flush sanitary and storm sewer line with hose. Multiple manhole system,average 8"line. (Includes) Remove/install manhole cove (2 men). In/out manhole. Check the condition of the liquid flow through the manhole, (visual inspection of height and velocity) Connect/disconnect fire hose, flush sewer line, set up guards a manholes and remove.9-1987

001.43696 hours per sewer lines to flush

QT 378 Ice machine, remove ice machine from plumbing. Includes turning off water sources, cutting copper tubing (up to 5/8") with hack saw twice, crimp ends of tubing with pliers, unplug machine.

000.08399 hours per Ice Machine

PIPE: Cast Iron bell & spigot, (Install)

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:
: PIPE : Cast Iron, Bell & Spigot, Water & Sewer  INSTALL
: NOTES: One fitting per section included in task time.
:       Sewer pipe in 5ft sections.
:       Water pipe in 12ft sections
:       See QT-998 & QT-999 for portable scaffolding *CONTINUED
:       & ladder use respectively .
:       * = ID fitting size ; example, *6" = 6" ID fitting/pipe
:
:
:

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TASK TIME STANDARDS LISTING

QT 141	*6"	SEWER	In Existing line,	lead joints,
			(Install)	
QT 146	*6"	SEWER	Continuous Run,	lead joints,
			(Install)	
QT 147	*6"	SEWER	Vertical or Stacked Position,	lead joints,
			(Install)	
QT 142	*4"	WATER	In Existing line,	lead joints,
			(Install)	
QT 143	*5"-10"	WATER	In Existing line,	lead joints,
			(Install)	
QT 144	*12"-24"	WATER	In Existing line,	lead joints,
			(Install)	
QT 145	*30"-42"	WATER	In Existing line,	lead joints,
			(Install)	

QT 141 Install bell and spigot sewer pipe, 6" ID, in existing line, lead joints,(5' sections). (Includes) Turn valve on/off. Clean joints, install last pipe and additional pipe section. Check joints and move material.9-1987

002.58597 hours per JOB SETUP TIME

001.10247 hours per 5' sections of sewer pipe to install

QT 146 Install bell & spigot sewer pipe and fitting, 6" ID, continuous run, lead joints, (5ft section). (Includes) Turn valve on/off. Install new pipe section and new pipe fitting. Check joints. Move material (CWT). Move material.9-1987

002.03254 hours per 5' sections of sewer pipe to install

QT 147 Install bell and spigot sewer pipe and fitting, 6" ID, vertical or stack position, (5ft sections). Turn valve off/on. Install pipe section, pipe fitting, and pipe support, 2 per section. Extra walking between floors. Check joints, move material, move material (cwt).9-1987

001.91377 hours per 5' sections of sewer pipe to install

QT 142 Install bell and spigot water pipe, 4" ID, in existing line, lead joints,(12ft sections). (Includes) Turn valve on/off. Clean joint. Install last pipe section and additional section. Check joints and move material.9-1987

004.45362 hours per JOB SETUP TIME

001.68918 hours per 12' sections of water pipe to install

QT 143 Install bell and spigot water pipe, 5" to 10" ID in existing line, lead joints,(12ft section). (Includes) Turn valve on/off. Clean joint. Install last pipe section and additional section. Check joints, move material.9-1987

005.25349 hours per JOB SETUP TIME

002.28019 hours per 12' sections of water pipe to install

QT 144 Install bell & spigot water pipe, 12"to24"ID, in existing line, lead joints,(12ft section). (Includes) Turn valve on/off. Install last pipe section and additional section. Check joints, clean joints. Move material.9-1987

009.14764 hours per JOB SETUP TIME

003.33436 hours per 12' sections of water pipe to install

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 145 Install bell and spigot water pipe, 30" to 42" ID, existing line
lead joints,(12ft sections). (Includes)Turn valve on/off. Clea
install last pipe section and additional section. Move material
Clean and check joints.9-1987

015.52533 hours per JOB SETUP TIME

005.89496 hours per 12' sections of water pipe to install

```

:
: PIPE : Remove or Replace- Cast Iron &or Bell & Spigot
: NOTES: One fitting per section included in task time.
: Pipe in 12ft sections.
: Lead joints.
: See QT-998 & QT-999 for portable scaffolding &
: ladder use respectively.
: * = ID fitting ; example *6 = 6" ID fitting or pipe
:
:
:

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TASK TIME STANDARDS LISTING

QT 148	*4"	(Remove)
QT 149	*5"-10"	(Remove)
QT 150	*12"-24"	(Remove)
QT 151	*30"-42"	(Remove)
QT 152	*4"	(Replace)
QT 153	*5"-10"	(Replace)
QT 154	*12"-24"	(Replace)
QT 155	*30"-42"	(Replace)

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT	148	Remove bell and spigot cast iron water pipe, 4" ID, lead joints, (12ft sections).Cut off water valve. Check break before removal Remove broken water pipe section, remove additional section. Move material. (cwt).9-1987
001.42168 hours per JOB SETUP TIME		
000.70852 hours per 12' sections of water pipe to remove		
QT	149	Remove bell and spigot cast iron water pipe 5" to 10" ID, lead joints, (12ft sections). (Includes) Cut off water valve. Check break before removal. Remove broken water pipe section and additional sections. Move material (cwt).9-1987
002.04505 hours per JOB SETUP TIME		
000.95440 hours per 12' sections of water pipe to remove		
QT	150	Remove bell and spigot cast iron water pipe, 12" to 24" ID, lead joints,(12ft sections) (Includes) Cut off water valve. Chec break before removal. Remove broken water pipe section. Remove additional sections. Move material (cwt).9-1987
003.14895 hours per JOB SETUP TIME		
001.22560 hours per 12' sections of water pipe to remove		

QT 151 Remove bell & spigot cast iron water pipe, 30" to 42", lead joints, (12ft sections). (Includes) Cut off water valve. Check break before removal. Remove broken water pipe section. Move material. 9-1987

005.34675 hours per JOB SETUP TIME

001.76800 hours per 12' sections of water pipe to remove

QT 152 Remove/install cast iron B and S pipe; 4" ID in existing water line, lead joints, (12ft section). Check break or leak. Cut water valve on/off. Remove first broken section and additional section. Material handling (cwt). Clean joints. Install section of pipe. Install last section. Check for leaks additional section. 9-1987

005.86684 hours per JOB SETUP TIME

002.39770 hours per 12' sections of water pipe to replace

QT 153 Remove old and install new cast iron, B and S pipe; 5" to 10" ID in existing water line, lead joints, (12ft section). Check break/leak. Cut valve on/off. Remove 1st. broken section, additional section. Material handling (cwt). Clean joints. Install section of pipe, last section. Check for leaks additional sections, and last section. 9-1987

007.37408 hours per JOB SETUP TIME

003.23459 hours per 12' sections of water pipe to replace

QT 154 Remove/install cast iron B and S pipe; 12" to 24" ID in existing water line, lead joints, (12ft section). (Includes) Check break or leak. Cut water valve on/off. Remove first broken section and additional section. Material handling (cwt). Clean joints. Install section of pipe, last section. Check for leaks additional sections and last section. 9-1987

012.37213 hours per JOB SETUP TIME

004.55996 hours per 12' sections of water pipe to replace

QT 155 Removed/Install cast iron, B & S pipe; 30" to 42" ID in existing water line, lead joints, (12ft section). (Includes) Check break/leak. Cut valve on/off. Remove 1st broken section, additional sections. Material handling (cwt). Clean joints. Install section of pipe, last section. Check for leaks additional section, check for leaks last section. 9-1987

036.29603 hours per JOB SETUP TIME

007.66296 hours per 12' sections of water pipe to replace

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:
: PIPE : Cast Iron, Water Pipe w/flanged joints (install, remove
:                                     old & install new gasket)
:
: NOTE: Water pipe in 12ft sections.
:       See QT-998 and AT-999 for portable scaffolding and
:       use respectively.
:       * = ID fitting or pipe; example *6" = 6" ID fitting/pipe
:       FLANGED PIPES include replace gasket & reassemble
:       without orifice.
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:

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TASK TIME STANDARDS LISTING

QT 156	*6"	PIPE	(Install)	12'long
QT 157	*12"	PIPE	(Install)	12'long
QT 158	*1"	FLANGE FITTING	includes replace gasket,w/o orifice (Disconnect & Reconnect)	
QT 159	*1.5"	FLANGE FITTING	includes replace gasket,w/o orifice (Disconnect & Reconnect)	
QT 160	*8"	FLANGE FITTING	includes replace gasket,w/o orifice (Disconnect & Reconnect)	
QT 161	*12"	FLANGE FITTING	includes replace gasket,w/o orifice (Disconnect & Reconnect)	

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 156	Install 6" ID cast iron water pipe flange joint 12ft section. Clean pipe ends. Place pipe in trench using crain. Place flange on pipe. Place gasket on hub. Position pipe ends together. In and out of trench. Install bolts 4 ea. Inspect joint. Material handling.9-1987
	000.57937 hours per 12' sections of water pipe to install
QT 157	Install 12" ID cast iron water pipe flange joint 12ft section. Clean pipe ends. Place pipe in trench using crane. Place flange on pipe. Place gasket in hub. Position pipe end together. IN an out of trench. Install bolts (4 ea.). Inspect joints. Material handling.9-1987
	000.60777 hours per 12' sections of water pipe to install
QT 158	Disconnect 1" ID flange joint; remove old and install new orifice plate and gaskets and reconnect joint.(Includes) Disconnect flange joints. Remove flange gasket and orifice ring Connect flange joint. Clean flange face and orifice. Inspect flange connection.9-1987
	000.39170 hours per pipe gaskets to replace

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 159 Disconnect 1 1/2" ID flange joint. (Includes) Disconnect flange joint. Remove flange gasket. Make new gasket. Install gasket. Connect flange faces. Clean flange faces.9-1987

000.24938 hours per pipe gaskets to replace

QT 160 Disconnect 8" ID flange joint; remove, make, and reinstall gasket and reconnect flange. (Includes) Disconnect flange joint 8" ID. Remove additional bolts and gasket. Make gasket and install. Connect flange joint 8" ID. Install additional bolts. Clean flange faces. Inspect connection.9-1987

000.58584 hours per pipe gaskets to replace

QT 161 Disconnect 12" ID flange joint. (Includes) Disconect flange joint, 8 bolts and add'l. 4 bolts. Remove gasket. Clean flange fales. Make/install gasket. Connect flange joint. Install 4 bolts. Inspect flange joint. Material handling.9-1987

000.66118 hours per pipe gaskets to replace

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:
: PIPE: Cast Iron Hubless Sewer Pipe & Fittings; Install,
: Remove, Replace
:
: NOTE: All work is performed in an open trench or ditch
: except where noted.
:
: Pipe sections are 10 feet long.
:
: See QT-998 and Qt-999 for portable scaffolding &
: ladder use respectively.
:
: * = ID fittings or pipe; example *6" = 6" ID fitting/pipe
:
:
:

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TASK TIME STANDARDS LISTING

QT 166	to*6"	Section-	broken	(Remove)	in ditch by crane
QT 169	to*6"	Section&	or Fitting	(Install)	in ditch by crane
QT 168	to*6"	Section-	broken	(Replace-1section)	by crane
QT 167	to*6"	Section-	broken-cut out	(Replace-splice)	by crane
QT 162	to*6"	Section&	or Fitting	(Install)	in ditch by hand
QT 163	to*6"	Section&	or Fitting	(Install)	in ditch by crane
QT 165	to*6"	Section&	or Fitting	vertical in ditch	by crane
				(Install)	stacked
QT 164	to*6"	Section&	or Fitting	attached to wall vert/	by crane
				(Install)	stacked

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 166 Remove a 10ft section of broken hubless pipe from an existing line in a trench.(Includes) Check break before removal. Remove broken pipe section. Move materials.9-1987

000.72685 hours per 10' sections of pipe to remove

QT 169 Install 10ft section of cast iron hubless sewer pipe & fitting, up to 6" ID install in a trench and use a crane for pipe section (Includes) Clean joints of section and fitting. Install new pipe section/new fitting. Inspect joint of section and joint of fitting. Material/tool movement for section and fitting.9-1987

000.69566 hours per 10' sections of sewer pipe to install

QT 168 Remove a broken 10ft section of hubless cast iron sewer pipe and install new section of hubless pipe up to 6" ID completely remove old sections use a crane.(Includes) Check break or leak. Clean joints. Remove/install pipe. Inspect joints. Move materials 9-1987

001.15741 hours per 10' sections of sewer pipe to replace

QT 167 Cut out broken 10ft section of cast iron sewer pipe, up to 6"ID; install cast iron hubless section, use a crane. Existing line is in a ditch.(Includes) Check break or leak. Clean joints Remove broken pipe, install new pipe. Inspect joints. Move materials.9-1987

001.66771 hours per 10' sections of sewer pipe to replace

QT 162 Install up to 6" ID hubless cast iron pipe fitting in trench or ditch.(Includes) Clean joint. Install fitting. Inspect joint. Move tools and materials.9-1987

000.28628 hours per pipe fittings to install

QT 163 Install one 10ft section hubless cast iron sewer pipe up to 6"ID in a trench or ditch, use crane.(Includes) Clean joint. Install new pipe section. Inspect joint. Material and tool movement. 9-1987

000.40938 hours per 10' sections of sewer pipe to install

QT 165 Install one 10ft,6" ID, cast iron hubless sewer pipe section and one fitting in vertical or stack position in a trench.(Includes Climb in and out of ditch or hole. Install pipe and fitting.198

000.90794 hours per 10' sections of sewer pipe to install

QT 164 Install 10ft, up to 6" ID, section of hubless cast iron sewer pipe or fitting in vertical position on wall.(Includes) Install pipe in stack position. Inspect joint. Move material.9-1987

000.44457 hours per 10' sections of sewer pipe to install

```

:
: PIPE: Clay, hubless pipe & fittings; Install,Remove,Replace
:
:
: NOTE: See QT-998 and QT-999 for portable scaffolding &
: ladder use respectively.
:
: * = ID fitting or pipe section ; example *6" = 6" ID pipe
: or fitting.
:
:
:
:

```

TASK TIME STANDARDS LISTING

QT 173	to*6"	SECTION only	(Remove)from ditch by hand
QT 172	to*6"	FITTING only	(Install) in ditch by hand
QT 170	to*6"	SECTION& or FITTING	in vert./stacked by hand (Install)
QT 171	to*6"	SECTION only	(Install) in ditch by crane
QT 174	to*6"	SECTION&includes_FITTINGS	(Replace) in ditch by crane
QT 175	to*6"	BELL&SPIGOT& HUBLESS SECT.	(Replace) in ditch by hand

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 173	Remove hubless clay pipe, 6ft lengths,up to 6" ID from a trench. (Includes) Remove clay pipe. Additional material handling.9-198
	000.16951 hours per sections of clay pipe to remove
QT 172	Install section of new clay hubless pipe fitting, up to 6" ID in a trench, by hand.(Includes) Install fitting. Inspect joint. Additional material handling.9-1987
	000.24292 hours per sections of clay pipe to install
QT 170	Install section of hubless clay pipe or fitting in a vertical or stack position, up to 6" ID, by hand .(Includes) Install pipe o fitting. Inspect joint. Additional material handling.9-1987
	000.31394 hours per clay sections of pipe to install
QT 171	Install section of clay hubless pipe, up to 6" ID, in a trench using a crane.(Includes) Install section of pipe. Inspect joint Additional material handling.9-1987
	000.45924 hours per sections of clay pipe to install
QT 174	Remove old and install new section of hubless clay pipe, in trench, by hand, up to 6" ID. (Includes) Remove and install section of clay pipe. Inspect joint. Additional material handling.9-1987
	000.60417 hours per sections of clay pipe to replace

QT 175 Remove a clay bell and spigot section of pipe and install a hubless section up to 6" ID; in a trench.(Includes) Remove/install section of pipe. Inspect joint. Additional material handling.9-1987

000.82864 hours per sections of clay pipe to replace

PIPE: Clay

vitrified;

(Install,Remove,Replace)

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:
: PIPE: Vitrified Clay, Remove, Install, Replace
:
:
: NOTES: All work is performed in an open trench or ditch. All
: pipe sections to 12" I.D. are handled by hand; all pipe
: sections over 12" I.D. are handled by crane.
: See QT-998 and QT-999 for portable scaffolding &
: ladder use respectively.
: * = ID fitting or pipe, example *6" = 6" ID pipe or
: fitting.
:
:
:

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TASK TIME STANDARDS LISTING

QT 176	*4"-12"	(Remove)
QT 177	*15"-36"	(Remove)
QT 178	*4" -8"	(Install)
QT 179	*10"-12"	(Install)
QT 180	*15"-36"	(Install)
QT 182	*4" -8"	(Replace)
QT 183	*8"-12"	(Replace)
QT 184	*15"-36"	(Replace)

- QT 176 Remove vitrified clay pipe; 3ft lengths, 4" to 12" ID from trench, by hand.(Includes) Remove clay pipe from trench. Additional material handling.9-1987
- 000.06996 hours per 3' sections of clay pipe to remove
- QT 177 Remove clay or concrete pipe; 4ft lengths, 15" to 36" ID from trench, with crane.(Includes) Climb in/out of trench, (avg. onc per 5 sections). Additional material handling.9-1987
- 000.26041 hours per 4' sections of pipe to remove
- QT 178 Install clay pipe, 3ft lengths,4" to 8" ID, in a trench by hand. (Includes) Install, in a trench, one section of pipe by hand. Inspect joint. Additional material handling.9-1987
- 000.10375 hours per 3ft sections of clay pipe to install
- QT 179 Install clay pipe, 3ft lengths, 10" to 12" ID, by hand into a trench.(Includes) Install 10" to 12" clay pipe in a trench. Inspect joint. Additional material handling.9-1987
- 000.18781 hours per 3ft sections of clay pipe to install
- QT 180 Install clay pipe, 4ft lengths, 15" to 36" ID, in a trench, with crane. (Includes) Install one section of 15" to 36" B&S vitrified clay pipe into trench. Inspect joint.9-1987
- 000.58468 hours per 4ft sections of clay pipe to install
- QT 182 Remove and install new clay pipe, 3ft lengths, 4" to 8" ID, with interlocking joints, in a trench, by hand.(Includes) Remove cla pipe from trench. Install clay pipe into trench.9-1987
- 000.17371 hours per 4ft sections of clay pipe to install
- QT 183 Remove old and install new clay pipe, 3ft lengths, 8" - 12" with interlocking joints, in a trench, by hand.(Includes) Remov clay pipe from trench by hand. Install clay pipe, by hand into a trench.9-1987
- 000.25777 hours per 3ft sections of clay pipe to install
- QT 184 Remove old and install new clay pipe, 4ft lengths, 15" to 36" ID, B & S in a trench, with crane.(Includes) Remove pipe from a trench with crane. Install, into a trench, one section of pipe.9-1987
- 000.84509 hours per 4ft sections of clay pipe to replace

:		:
:	PIPE : Concrete, Remove, Install, Replace	:
:	NOTES: All work is performed in an open trench or ditch.	:
:	All pipe sections are in 4 foot lengths and 15 to 36	:
:	inches I.D. * = ID pipe	:
:	All pipe sections are handled by crane.	:
:	See QT-998 and QT-999 for portable scaffolding and	:
:	ladder use respectively.	:
:		:
:		:

TASK TIME STANDARDS LISTING

QT 177	*15"-36"	(Remove)	
QT 181	*15"-36"	(Install)	.
QT 185	*15"-36"	(Replace)	.

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT	177	Remove clay or concrete pipe; 4ft lengths, 15" to 36" ID from trench, with crane.(Includes) Climb in/out of trench, (avg. onc per 5 sections). Additional material handling.9-1987	
		000.26041 hours per 4' sections of pipe to remove	
QT	181	Install concrete pipe, 4ft lengths, 15" to 36" ID, in a trench, with crane.(Includes) Install one section of pipe into a trench using a crane. Inspect the joints.9-1987	
		000.51058 hours per 4ft sections of concrete pipe to install	
QT	185	Remove old and install new concrete pipe, 4ft lengths, 15" to 36" ID T & G, in a trench, with crane. (Includes) Remove section o pipe from trench, with crane. Install pipe into trench, using a crane.9-1987	
		000.77099 hours per 4ft sections of concrete pipe to replace	

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:
: PIPE : Copper Tubing, Install fittings
: NOTES: Measure, cut, ream both ends and assemble to a fitting
:        (fixture or coupling) in a shop setting using a vise,
:        oxygen-acetylene torch and regular tools.
:        Tubing is 1/4" to 3" I.D.
:        See QT-998 and QT-999 for portable scaffolding and
:        ladder use respectively .
:
:
:

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TASK TIME STANDARDS LISTING

QT 186	Attach	two nuts	by flaring ends
QT 187	Attach	fitting	1ea screw UNION
QT 188	Attach	fitting(s)	2ea screw UNIONS
QT 189	Attach	fitting(s)	1ea screw UNION & 1ea solder JOINT
QT 190	Attach	fitting	1ea SOLDER JOINT
QT 191	Attach	fitting(s)	2ea SOLDER JOINTS

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 186	Measure, cut & ream tubing and attach two nuts by flaring both ends of tubing.(includes) Measure, cut and ream both ends of tubing. Assemble two flare nuts to tubing.9-1987	
	000.08231 hours per pieces of tubing to cut and ream (both ends)	
QT 187	Attach tubing to fitting with one screw union.(Includes) Measure, cut & ream tubing and attach two nuts. Attach fitting to tubing.9-1987	
	000.10201 hours per tube fittings to attach	
QT 188	Attach tubing to fitting(s) with two screw unions. (Includes) Measure, cut & ream tubing and attach two nuts. Attach fitting/ fittings to tubing.9-1987	
	000.12171 hours per tube fittings to attach	
QT 189	Attach tubing to fitting(s) with one screw union and with one soldered joint.(Includes) Measure, cut & ream both ends of tubing. Assemble one flare nut to tubing. Attach fitting with one screw union. Attach fitting with one solder joint.9-1987	
	000.18205 hours per tube fittings to attach	

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 190 Attach tubing to fitting with one solder joint.(Includes)
Measure cut and ream both ends of tubing. Attach fitting by
soldering one joint.9-1987

000.14180 hours per tube fittings to attach

QT 191 Attach tubing to fitting(s) with two solder joints.(Includes)
Measure, cut and ream both ends of tubing. Attach fitting(s) by
soldering two joints.9-1987

000.24237 hours per tube fittings to attach

PIPE: Flanged Joints (Install,Remove)

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:
: PIPE: Flanged Joints, Install & Remove
: NOTE: See QT-998 and QT-999 for portable scaffolding &
: ladder use respectively.
: * = ID pipe or fittings
:
:
:

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TASK TIME STANDARDS LISTING

QT 222	*1.5" threaded pipe	5ea	SECTIONS-----BRASS	cut,thread,
			(Install)2hangerper section	
QT 223	*2" threaded pipe	5ea	SECTIONS&10FITTINGS--BRASS	cut,thread&
			(Install) 2hangers per sect	
QT 203	*3"-6"thread pipe		FLANGE-----BRASS	
			(Install)	
QT 227	*6" pipe	5ea	SECTIONS& 10FITTINGS-BRASS	cut thread
			(Install)2 hangers per sect	
QT 196	*2" threaded pipe	2ea	FLANGES	(Remove)
QT 197	*2" threaded pipe	5ea	FLANGES	(Remove)
QT 198	*2" threaded pipe	2ea	FLANGES	(Install)
QT 220	*2" threaded pipe	5ea	SECTIONS-w/fittings	includes
			(Install) flanges & hangers	
QT 213	*4" threaded pipe	2ea	SECTIONS& 4 FLANGES	to existing line&
			(Install) fab.4 supports	
QT 224	*4" threaded pipe	5ea	SECTIONS& 5FITTINGS	cut,thread&
			(Install) 2hangers per sect	
QT 199	*2" pipe	1ea	FLANGE	(Tack Weld)
QT 205	*2" pipe		SECTION FLANGED	into existing pipe line
			(Install) fab&instl.2hanger	
QT 207	*2" pipe		FLANGE-	weld neck-type
			(Fit& TackWeld)	
QT 219	*2" pipe	5ea	SECTIONS & FLANGES	tackweld,insert in
			(Install)line&instl.hangers	
QT 201	*4" 5'long pipe		SECTIONS	(Install)12'below grade use
				dresser stl.coupling
QT 226	*4" pipe	15ea	SECTIONS-flanges attached	
			(Install) 2hangers per sect	
QT 204	*5" pipe		FLANGE JOINT GASKET	disconnect,
			(Replace)	reconnect
QT 202	*6" pipe	1ea	NECK FLANGE	(Tack Weld)
QT 210	*6" pipe	5ea	SECTIONS FLANGED	&cap remaining
			(Remove)end w/blind flange	
QT 218	*6" pipe	10ea	SECTIONS FLANGED-flgs.cast on,	
			(Install) 12'below by crane	
QT 200	*8" pipe	1ea	BLIND FLANGE (Install)	on end of pipe
QT 208	*8" pipe	3ea	SECTIONS FLANGED	

				(Remove)	
QT 214	*12"	pipe	6ea SECTIONS FLANGED	& supports w/crane	
				(Remove)	
QT 216	*12"	pipe	2ea SECTIONS FLANGED	tack weld&insert in	
				(Install) existing line	
QT 217	*12"	pipe	VALVE	rmv 1 sect.to insert	
				(Install) 12'below by crane	
QT 212	*12"	pipe	2ea SECTION-flanged,	to existing line	
				(Install) w/crane	
QT 209	*12"	pipe	SECTION-into existing line,& fabricate		
				(Install) required supports	
QT 221	*12"	pipe	5ea SECTIONSw/fittings attached	12'below	
				(Install) by crane	
QT 206	*12"	pipe	FLANGE-slip/weld neck-type		
				(Fit& TackWeld)	
QT 211	*16"	pipe	SECTION-flanged,12' below grade w/crane		
				(Install) inclds.tack flgs.	
QT 215	*16"	pipe	SECTION FLANGED	12'below grade	
				(Replace) w/crane	
QT 225	*16"	pipe	15ea SECTIONS-flanges attached	12'below	
				(Install) by crane	

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 222	Install 5 sections 1-1/2" ID brass pipe with 5 fittings. Cut thread and install flanges.Two supports per section. Cut and thread pipe. Install flanges on pipe. Install supports. Connect flange joints. Material handling.9-1987				
	006.17738 hours per sets of brass pipe to install (1 set is 5 sections)				
QT 223	Install 5 sections of 2"ID brass pipe with 10 fittings. Cut, thread, and install flanges, nipples and 2 supports per section Cut, ream and thread pipe.Install nipples to fitting and flange to nipples and pipe.Connect flange joints. Install supports and inspect joints. Material handling.9-1987				
	007.87080 hours per sets of brass pipe to install (1 set is 5 sections)				
QT 203	Install 3" - 6" ID threaded brass flanges on threaded pipe. (Includes) Clean flanges and pipe ends. Install threaded brass flanges-2 men. Check and inspect flanges. Move material (arm-load).9-1987				
	000.43456 hours per brass flanges to install				
QT 227	Install 5 sections of 6"ID brass pipe with 10 fittings. Cut thread/install flanges.Install 2 supports per length.(Includes) Cut and thread pipe. Install nipples to fittings and flanges to nipples and pipe. Install hangers. Connect flange joints.Install additional bolts. Inspect joints. Material handling (cwt).9-198				
	015.66918 hours per sets of brass pipe to install (5 sections per set)				

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 196	Remove two flanges from 2" ID threaded pipe section.(Includes) Remove flanges.9-1987
	000.07296 hours per sets of flanges to remove (2 flanges per set)
QT 197	Remove 5 flanges from 2" ID threaded pipe.(Includes) Remove brass flanges.9-1987
	000.18240 hours per sets of pipe flange to remove (5 flanges per set)
QT 198	Install 2 flanges on 2" ID threaded pipe section. (Includes) Clean flange and pipe. Install flanges. Check and inspect flanges. Move material (arm load).9-1987
	000.19193 hours per sets of pipe flanges to install (2 flanges per set)
QT 220	Install 5 sections 2"ID pipe with 5 fittings.Cut/thread pipe install flanges and hangers.(Includes) Cut/thread pipe. Install flanges/hangers. Connect flange joints. Inspect joints. Material handling.9-1987
	005.71438 hours per sets of pipe to install (1 set is 5 sections)
QT 213	Install 4"ID threaded flanges on 2 pipe sections & insert flange sections in existing line. Fabricate and install 4 pipe support (Includes) Fabricate supports. Install pipe supports. Cut and thread pipe section. Install threaded flanges. Clean flanges. Connect flanged sections. Make 3 gaskets. Check and inspect joints. Move material (cwt).9-1987
	003.48856 hours per sets of flanged pipe to install (1 set is 2 sections)
QT 224	Install 5 sections of 4"ID pipe with 5 fittings.Cut/thread pipe; install flanges.Install 2 supports per length.Cut/thread pipe. Install flanges on pipe section. Install hangers. Connect flange joints. Inspect joints. Material handling cwt.9-1987
	009.37993 hours per sets of pipe to install (5 sections per set)
QT 199	Tack weld 1 flange to 2" ID pipe section.(Includes) Clean pipe end. Fit up flange and tack weld. Check flange fitting. Move material (arm load).9-1987
	000.19842 hours per pipe flanges to tack
QT 205	Install 2" ID flanged pipe section into existing pipe line. Make two supports or hangers and install.(Includes) Fabricate pipe support. Install supports on masonry surface. Connect flanged ends to existing flanges. Make two gaskets. Check and inspect joints. Move material (cwt).9-1987
	001.10406 hours per sections of pipe to install

QT 207 Tack weld neck flanges on pipe section and insert section into existing flanged line (2"ID). Make pipe support. Install support on masonry. Clean flange fitting. Fit up flange and tack weld. Connect flanged ends to existing flange connections. Make two gaskets. Clean existing flange faces. Check and inspect joints. Move material (cwt).9-1987

001.39437 hours per pipe flanges to tack weld

QT 219 Install slip on flanges on 5 iron/steel pipe sections 2"ID tack weld and insert sections in existing flanged line. Fab.& install pipe supports.Clean flange fittings. Fit up flange & tack weld. Make supports/install.Make 6 gaskets.Connect flange ends. Add'l tool handling. Check and inspect joints. Move material (cwt).

006.01546 hours per sets of pipe to install flanges (5 sections per set)

QT 201 Install 1 section of 4" ID pipe using dresser (style 38) steel couplings - 12' below grade. (5' lengths).(Includes) Slip coupling on pipe end. Slip pipe into coupling. Bolt up coupling. Climb in and out of trench. Material handling (cwt). Inspect joint.9-1987

000.36198 hours per 5ft sections of pipe to install

QT 226 Install 15 sections of 4"ID pipe, flanges already installed. Install 2 hangers per section.(Includes) Install hangers. Connect flange joints. Inspect joints. Material handling (cwt). 9-1987

011.18063 hours per sets of pipe to install (15 sections per set)

QT 204 Disconnect 5" ID flange joint; remove, make and install gasket reconnect flanges. (Inspect) Disconnect flanged joint. Remove gasket. Make new gasket. Install new gasket. Connect flange joints. Inspect flange connection. Clean flange faces.9-1987

000.43640 hours per gaskets to replace

QT 202 Tack weld 1-neck flange to 6" ID pipe. (Includes) Clean pipe end. Fit up flange and tack weld-2 men. Check and inspect work. 9-1987

000.41047 hours per pipe flanges to tack

QT 210 Remove 5 sections of 6" ID pipe, install blind flange on end, remove hangers.(Includes) Turn valves off/on. Disconnect flange joints. Disconnect 24 additional bolts. Remove hangers. Install blind flange. Install additional bolts. Material handling (cwt) 9-1987

001.77407 hours per sets of pipe to remove (1 set is 5 sections)

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

-
- QT 218 Install 10 sections 6"ID flanged pipe, flanges cast on pipes 12ft below grade.Crane for handling pipe.(Includes)Climbs in/ou of trench.Position pipe w/crane.Connect flange joints.Install additional bolts 4. Additional time for cramped area. Inspect joints. Material handling (cwt).9-1987
- 005.80486 hours per sets of pipe to install (1 set is 10 sections)
- QT 200 Install blind flange on end of 8" ID pipe. (Includes) Install flange. Install additional bolts. Material handling.9-1987
- 000.21722 hours per blind flanges to install
- QT 208 Remove (3) 12ft sections of 8" ID flanged pipe.(Includes) Turn valves off. Disconnect flange joint (8 bolts). Remove additional bolts (4). Remove gasket. Remove hanger bolts. Move material (cwt).9-1987
- 001.39656 hours per sets of pipe to remove (1 set is 3 12ft sections)
- QT 214 Remove (6) 12" ID flanged pipe sections and supports using crane for handling pipe.(Includes) Cut 2 valves off. Relocate and climb portable scaffold. Disconnect joints, bolts. Remove additional bolts, gaskets. Remove pipe section using crane. Add'l. tool handling. Remove pipe supports. Add'l. walk to cut off valves. Material handling.9-1987
- 003.58352 hours per sets of flanged pipe to remove (1 set is 6 sections)
- QT 216 Install slip on flanges,2 sections of 12"ID pipe,tack weld and insert sections into existing flanged line on fab. supports. Clean flange fittings. Fit flange/tack weld, 2 men.Make support and install.Make 3 gaskets/install.Connect flange joints 8 bolt Install add'l. bolts 4. Check and install joints. Move material 9-198
- 004.50799 hours per sets of flanged pipe to install (1 set is 2 sections)
- QT 217 Remove 1 section 12"ID pipe cut to length &install valve in line 12ft below grade,use crane.(Includes) Turn valves off/on. Climb in/out of trench.Add'l. walk turn valves on/off.Disconnect joint and add'l. bolts 4.Remove pipe section,cut pipe.Fit and weld. Position valve & pipe/crane.Connect joints. Add-l. bolts 4.Add' time/work location.Add-l. tool handling.Add'l. tool handling.
- 004.79347 hours per sets of pipe to install

-
- QT 212 Install 2 sections of 12" ID flanged pipe on to existing lines use crane for handling pipe. (Includes) Turn valves off/on Remove blind flange. Remove add'l. bolts (4), gasket. Clean flange face. Install gaskets. Connect flange joints and blind flange. Install add'l bolts. Add'l. tool handling. Walk, valves off/on. Place pipe w/crane. Inspect joints, material handling. 1987
- 002.72108 hours per sets of flanged pipe to install (1 set is 2 sections)
- QT 209 Install section 12" ID pipe into existing line. Make two supports for installation. (Includes) Make supports. Install supports. Make two gaskets. Clean existing flange faces. Install flange section. Install additional bolts (4). Install gaskets. Check and inspect joints. Move material (cwt). 9-1987
- 001.82377 hours per sections of pipe to install
- QT 221 Install 5 sections, 12" ID pipe and 5 fittings, flanges installed, (12ft below grade). Use crane for pipe. Climb in/out of trench. Position pipe/crane. Connect flange joints. Install additional bolts (4). Additional time for cramped area. Inspect joints. Additional tool handling. Material handling cwt. 9-1987
- 006.71121 hours per sets of pipe to install (1 set is 5 sections)
- QT 206 Fit up (2) 12" ID weld neck or slip on flanges in pipe section and tack weld. (Includes) Clean pipe end. Fit up flange to each end & tack weld - 2 men. Check and inspect work. Move material (cwt). 9-1987
- 001.12520 hours per sets of pipe flange to tack (1 set is 2)
- QT 211 Install 1 section 16" ID flanged pipe 12 feet below grade. Includes tack weld flanges to pipe. Use crane to handle pipe. (Includes) Tack weld flanges to pipe. Climb in/out of trench. Position pipe (crane). Connect flange joint. Install add'l bolt (4). Additional time for cramped area. Inspect joint. Additional tool handling. Material handling (cwt). 9-1987
- 002.29348 hours per sections of pipe to install
- QT 215 Remove/install section of 16" ID flanged pipe 12ft below grade. Use crane handling matl. Turn valves off/on. Climb in/out trench Disconnect joints, add'l bolts (4). Remove gaskets/install. Clean flange faces. Make 2 gaskets. Remove pipe section & install with crane. Connect flange joints. Install 24 add'l. bolts. Intricate area extra time. Add'l. tool handling. Walk, valves on/off. 9-1987
- 003.61881 hours per sections of flanged pipe to replace

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 225 Install 15 sections of 16"ID pipe -flanges already installed.
(12ft below grade).Use crane for handling pipe.(Includes) Climb
in/out of trench. Position pipe w/crane. Connect flanges.Install
add'l. bolts. Additional time for cramped area. Additional tool
handling. Inspect joints. Material handling (cwt).9-1987

011.41682 hours per sets of pipe to install (15 sections per set)

```

:
: PIPE-IRON & STEEL: Cut, Ream & Thread (Using pipe machine)
: NOTE : Cut, ream & thread pipe of any length
: using pipe machine.
: See QT-998 & QT-999 for portable scaffolding
: & ladder use respectively.
:
:
:

```

TASK TIME STANDARDS LISTING

QT 228	*2"	pipe	ONE	END	Cut, Ream, Thread
QT 229	*2"	pipe	BOTH	ENDS	Cut, Ream, Thread
QT 230	*4"	pipe	BOTH	ENDS	Cut, Ream
QT 231	*4"	pipe	BOTH	ENDS	Cut, Ream, Thread
QT 232	*6"	pipe	BOTH	ENDS	Cut, Ream
QT 233	*6"	pipe	BOTH	ENDS	Cut, Ream, Thread

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 228	Cut pipe up to 2"ID; ream and thread one end by machine. (Includes) Cut, ream & thread one end. Inspect threads. Material handling.9-1987
	000.11635 hours per pipe to ream and thread
QT 229	Cut 2"ID pipe to any length; ream and thread both ends by machine. (Includes) Cut, ream and thread pipe. Check & inspect threads.
	000.13854 hours per pipe to ream and thread
QT 230	Cut a section of 4"ID pipe by machine to any length and ream both ends.(Includes) Cut and ream pipe. Clean reamed ends. Inspect and check ends. Material handling.9-1987
	000.32069 hours per sections of pipe to cut and thread
QT 231	Cut section of 4" ID pipe to any length; ream/thread both ends using pipe machine.(Includes) Cut, ream and thread pipe. Inspect and check threads. Material handling.9-1987
	000.41696 hours per sections of pipe to cut and thread
QT 232	Cut 6"ID pipe to any length and ream both ends by machine. Cut and ream pipe. Clean both ends. Inspect both ends. Move material.9-1987
	000.51959 hours per sections of pipe to cut and thread

QT 233 Cut 6" ID pipe to any length; ream and thread both ends by machine. (Includes) Cut, ream and thread 6" pipe. Inspect threads. Move material.9-1987

000.59479 hours per sections of pipe to cut and thread

PIPE: Plastic Pipe (ABS or PVC) & fittings
(Install, Replace to 3" ID)

```

:
: PIPE-PLASTIC (ABS/PVC):(to 3"ID)  Install, Remove old & Install
:                                     new - pipe & fittings
:
: NOTES:  Pipe in 20ft sections.
:         QT-234, QT-236 to QT-242 & QT-342 are based on up to
:         3" I.D. pipe & fittings.                *CONTINUED
:         QT-235, QT-243 to QT-249 & QT-343 are based on 3"
:         to 6" I.D. pipe & fittings ( found on pages 48 and 49)
:         See QT-998 & QT-999 for portable scaffolding &
:         ladder use respectively.
:
:
:

```

TASK TIME STANDARDS LISTING

QT 234	SECTION & FITTING	horz.	(Install)	per section	hrs
QT 236	SECTION-joint	horz.	(Install)	per joint	hrs
QT 237	SECTION	horz.	(Install)	per section	hrs
QT 238	SECTION	vert/stack	(Install)	per section	hrs
QT 239	TEE-3 joints	new	(Install)	per tee	hrs
QT 240	TEE-3 joints	existing line	(Install)	per tee	hrs
QT 241	FITTING-2 joints		(Install)	per fitting	hrs
QT 242	SECTION-2 joints	existing line	(Replace)	per section	hrs
QT 342	SECTION-2 joints	existing line	(Replace)-broken	steel pipe	
				w/plastic	

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

- QT 234 Install section of new plastic (ABS or PVC) pipe and fitting, up to 3"ID 20ft section. (Includes) Cut, assemble and install section of pipe. Install fitting. Move tools and material. Inspect section of pipe and fittings of pipe.9-1987
000.13172 hours per 20ft sections of plastic pipe to install
- QT 236 Cut, assemble and install section of plastic (ABS or PVC) pipe, Up to 3"ID, 20ft section, one joint.(Includes) Cut, assemble and install section of pipe. Move tools and materials. Inspect joint 9-1987
000.08295 hours per 20ft sections of plastic pipe to install
- QT 237 Cut, assemble, install and test for leaks a section of plastic pipe.Up to 3" ID,20ft sections.(Includes) Cut, assemble, instal and test section of pipe. Move tools and materials. Inspect joint.9-1987
000.27221 hours per 20ft sections of plastic pipe to install
- QT 238 Install new plastic (ABS or PVC) pipe or fitting in vertical or stack position. Up to 3" ID. (Includes) Install section of pipe or fitting. Move tools and materials. Inspect joint.9-1987
000.26978 hours per sections of plastic pipe or fittings to install
- QT 239 Install plastic (ABS or PVC) tee, up to 3"ID, three joints, new pipe installation. (Includes) Install tee, three joints. Move tools and materials. Inspect joints.9-1987
000.20673 hours per plastic tees to install
- QT 240 Install plastic (ABS or PVC) tee, up to 3" ID, three joints, into existing installation.(Includes) Cut existing pipe and install tee, one joint. Connect the remaining 2 joints of the tee. Move tools and materials. Inspect joints.9-1987
000.22077 hours per plastic tees to install
- QT 241 Install new plastic (ABS or PVC) pipe fitting, up to 3" ID, one joint. Install fitting. Move tools and materials. Inspect joint 9-1987
000.09193 hours per plastic fittings to install
- QT 242 Remove old and install new 20ft section of plastic (PVC or ABS) pipe in existing line, up to 3" ID, 2 joints.(Includes) Remove broken pipe and install new section. Move tools and material. Inspect joints.9-1987
000.32081 hours per 20ft sections of plastic pipe to replace

QT 342 Remove broken section of existing metal pipe/install plastic pipe (ABS or PVC), up to 3" ID.(Includes)Cut broken metal pipe section out. Use hand tool.. Remove old pipe section.Install section of plastic pipe and fitting.Install additional fitting.
9-1987

000.24939 hours per sections of pipe to replace

PIPE: Plastic Pipe (ABS or PVC)& fittings
(Install,Repl.,3"to 6"ID)

```

:
: PIPE PLASTIC (ABS/PVC): (3"-6"ID)   Install, Replace
:                                     Pipe & Fittings
:
: NOTES: Pipe in 20ft sections.
:       QT-235, QT-243 to QT-249 & QT-343 are based on 3" to
:       6" I.D. pipe & fittings.          *CONTINUED
:       QT-234, QT-236 to QT-242 & QT-342 are based up to 3"
:       I.D. pipe & fittings (found on pages 46 & 47).
:       See QT-998 & QT-999 for portable scaffolding &
:       ladder use respectively.
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:
:
:

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TASK TIME STANDARDS LISTING

QT 235	SECTION & FITTING	new	(Install)	per section	hrs
QT 243	SECTION-1 joint	new	(Install)	per section	hrs
QT 244	SECTION vert/stacked	new	(Install)	per section	hrs
QT 245	TEE-3 joints	new	(Install)	per tee	hrs
QT 246	TEE-3 joints	in existing	(Install)	per tee	hrs
QT 247	FITTING-1 joint	new	(Install)	per fitting	hrs
QT 248	SECTION-2 joints		(Replace)	per section	hrs
QT 249	SECTION-2 joints	in trench	(Replace)	per section	hrs
QT 343	SECTION-2 joints	broken steel	(Replace)	install plastic	

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 235	Install section of new plastic (ABS or PVC) pipe and fitting, 3" - 6" ID 20ft section. (Includes) Cut, assemble and install section of pipe. Install fitting. Move tools and materials. Inspect section of pipe. Inspect fittings of pipe.9-1987
	000.14668 hours per 20ft sections of plastic pipe to install
QT 243	Cut, assemble and install section of plastic (ABS or PVC) pipe, 3" - 6" ID, 20ft section, one joint.(Includes) Cut, assemble and install section of pipe. Move tools and materials. Inspect joints.9-1987
	000.09171 hours per 20ft sections of plastic pipe to install
QT 244	Install new plastic (ABS or PVC) pipe or fitting in vertical or stack position, 3" - 6" ID. (Includes) Install section of pipe or fitting. Move tools and materials. Material handling every 3 pieces. Inspect joint.
	000.30908 hours per sections of plastic pipe or fittings to install

QT 245 Install plastic (ABS or PVC) tee, 3" - 6" ID, three joints, new pipe installation. (Includes) Install tee, three joints. Move tools and materials. Inspect joint.9-1987

000.22533 hours per plastic tees to install

QT 246 Install plastic (ABS or PVC) tee, 3" to 6" ID, three joints, into existing installation. (Includes) Cut existing pipe and install tee, one joint. Connect the remaining 2 joints of the tee. Move tools and materials. Inspect joints.9-1987

000.24193 hours per plastic tees to install

QT 247 Install new plastic (ABS or PVC) pipe fitting, 3" - 6" ID, one joint. Install fitting. Move tools and materials. Inspect joint 9-1987

000.09813 hours per plastic fittings to install

QT 248 Remove old and install 20ft section of plastic (PVC or ABS) pipe in existing line, 3" - 6" ID, 2 joints. (Includes) Remove broke pipe and install new section. Move tools and materials. Inspect joints.9-1987

000.45490 hours per 20ft sections of plastic pipe to replace

QT 249 Remove old and install new 20ft section of plastic (PVC or ABS) pipe in a trench, 3" - 6" ID.(Includes) Remove one section of broken pipe. Install fittings on stationary pipe section. Cut, assemble and install new section of pipe (one joint). Complete other joint on new pipe section. Inspect joints. Move tools and materials.

000.58539 hours per 20ft sections of pvc pipe to replace

QT 343 Remove broken section of existing metal pipe and install plastic pipe (ABS or PVC), 3"-6" ID.(Includes)Cut broken metal pipe out.Use hand tool.Remove old pipe section.Install section of plastic pipe and fitting.Install additional fitting.9-1987

000.35261 hours per sections of pipe to replace

```

:
: PIPE : (to 4"ID) Cast Iron (concrete lined), class 22
:           pressurized water, Install, Remove, Replace
: NOTES: Pipe in 18' sections.
:           See QT-998 & QT-999 for portable scaffolding &
:           ladder use respectively .
:
:
:
:

```

TASK TIME STANDARDS LISTING

QT 250	SECTION & FITTING	(Install)	in trench
QT 252	FITTING	(Install)	in trench
QT 254	SECTION	broken	(Remove) in trench
QT 256	SECTION	broken	(Replace) in trench
QT 258	SECTION-partial	cut out	(Replace) in trench,broken

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 250 Install 18ft section of cast iron (concrete lined), class 22
 pressurized water pipe and fitting.Up to 4"ID flanged (U.S.)
 joints.In a trench.Clean pipe section and fitting for joint.
 Install fitting & new pipe section.Open water valve. Check pipe
 section for leaks at joint. Move pipe section. Move fitting.
 9-1987

000.94745 hours per 18ft sections of water pipe to install

QT 252 Install one section of cast iron (concrete lined), class 22
 pressurized water pipe fitting, up to 4" ID flanged (U.S.)
 joint; in a trench.(Includes) Clean joint. Install fitting. Ope
 water valve. Check pipe section for leaks. Move pipe section.
 Move fitting.9-1987

000.45168 hours per pipe fittings to install

QT 254 Remove 18ft sections of broken cast iron (concrete lined), class
 22 pressurized water pipe. Up to 4" ID, flanged (U.S.) joint.
 (Includes) Turn off water valve. Examine break. Remove first
 pipe section. Material movement. Remove each additional section
 Material movement.9-1987

000.88316 hours per JOB SETUP TIME

000.28142 hours per 18ft sections of water pipe to remove

QT 256 Remove 18ft section of broken cast iron (concrete lined), class 22 pressurized water pipe in existing line and install new. Up to 4" ID, flanged (U.S.) joints.(Includes) Remove 2 sections of broken pipe. Install first section. Install several sections 9-1987

001.83061 hours per JOB SETUP TIME

001.22887 hours per 18ft sections of water pipe to remove

QT 258 Remove partial section of broken cast iron(concrete lined) class 22 pressurized water pipe in existing line and install new. Cut out broken section.Up to 4"ID. Check break. Turn water off/on. Remove and install broken pipe. Check joints for leaks. Material handling.9-1987

001.53594 hours per partial sections of water pipe to remove

PIPE: Pressurized Water Pipe (class 22)
(Instl.,Rmv.,Repl.,5"to10"ID)

```

:
: PIPE: (5-10"ID) Cast Iron (concrete lined), class 22
:           pressurizedwater, Install, Remove, Replace
: NOTES: Pipe in 18ft sections.
:           See QT-998 & QT-999 for portable scaffolding &
:           ladder use respectively .
:
:
:
:

```

TASK TIME STANDARDS LISTING

QT 251	SECTION & FITTING	(Install)	in trench
QT 253	FITTING	(Install)	in trench
QT 257	SECTION	broken	(Replace) in trench
QT 259	SECTION-partial	broken	(Replace) in trench
QT 255	SECTION	broken	(Remove) in trench

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 251 Install 18ft section of cast iron(concrete lined),pressurized class 22 water pipe and fitting,5"-10"ID flanged (U.S.) joints. In a trench.Clean pipe section for joint.Install fitting.Install new pipe section.Open water valve.Check pipe section and fittin for leaks. Move pipe section. Move fitting.9-1987

001.00601 hours per 18ft sections of water pipe to install

QT 253 Install one section of cast iron (concrete lined), class 22 pressurized water pipe fitting, 5" - 10"ID flanged (U.S.) joint in a trench.(Includes) Clean joint. Install fitting. Open water valve. Check joint for leaks. Move material.9-1987

000.48096 hours per pipe fittings to install

QT 257 Remove 18ft section of broken cast iron (concrete lined) class 22 pressurized water pipe in existing line and install new. 5" - 10" ID, flanged (U.S.) joints. (Includes) Remove 2 or more sections of broken pipe. Install first section. Install several sections of pipe.9-1987

001.81088 hours per JOB SETUP TIME

001.30483 hours per 18ft sections of water pipe to remove

QT 259 Remove partial section of broken cast iron, concrete lined,class 22 pressurized water pipe in existing line & install new.Cut ou broken section,5"-10"ID, flanged (U.S.) joint.(Includes) Check break. Turn water off/on. Remove and install broken pipe. Check joints for leaks. Material handling.9-1987

001.59450 hours per partial sections of water pipe to replace

QT 255 Remove 18ft sections of broken cast iron (concrete lined), class 22 pressurized water pipe. 5" to 10" ID, flanged (U.S.) joints (Includes) Turn off water valve. Examine break. Remove first pipe section. Material movement. Remove each additional section 9-1987

000.80487 hours per JOB SETUP TIME

000.29882 hours per 18ft sections of water pipe to remove

PIPE: Threaded pipe, fittings & supports;
(Instl., Rmv., Repl.)

```

:
: PIPE: Threaded Pipe, Fittings & Supports, Remove, Install,
:                                     Replace
:
: NOTE: See QT-998 & QT-999 for portable scaffolding & ladder
:       use respectively.
:       * = ID of pipe or fitting
:
:
:
:

```

TASK TIME STANDARDS LISTING

QT 260	*2"	pipe	SECTION & FITTING	(Remove)
QT 261	*2.5"-6"	pipe	SECTION & FITTING	(Remove)
QT 262	*2"	pipe	SECTION & FITTING	(Install)
QT 263	*4"	pipe	SECTION & FITTING	(Install)
QT 264	*6"	pipe	SECTION & FITTING	(Install)
QT 379	1"-2"d	pipe	HANGER....field mod.	(Modify & Install)
QT 265	to *6"	pipe	SUPPORT-clevis type	(Fab.&Install)toany surface
QT 267	*2"	pipe	SECTION & FITTING	(Replace)
QT 268	*4"-6"	pipe	SECTION & FITTING	(Replace)

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 260	Remove section of threaded pipe and fitting; 2" ID. (Includes) Close valve. Remove pipe section. Material handling section. 9-1987
	000.14389 hours per sections of pipe to remove
QT 261	Remove section of threaded pipe and fitting; 2 1/2" to 6" ID. Close valve. Remove section. Material handling section. (Includes) Close valve. Remove section. Material handling section. 9-1987
	000.32306 hours per sections of pipe to remove
QT 262	Install section of threaded pipe and fitting, 2" ID. (Includes) Cut and thread pipe. Install fitting. Install pipe section. Check and inspect joints. Material handling. Open valves. 9-1987
	000.21788 hours per sections of pipe to install
QT 263	Install section of threaded pipe and fitting; 4" ID. (Includes) Cut and thread pipe. Install fitting. Install pipe section. Check and inspect joints. Material handling. Open valve. 9-1987
	000.65293 hours per sections of pipe to install

- QT 264 Install section of threaded pipe and fitting; 6" ID.(includes)
Cut and thread pipe. Install fitting and pipe section. Check and
inspect joints. Material handling. Open valves.9-1987
- 000.79623 hours per sections of pipe to install
- QT 379 1"-2" Pipe Hanger -- field modification and Install.
Includes : Cutting 3/8" allthread to length, deburr assemble
allthread, butt plate and yoke clamp. Drilling
two 3/8"d holes in masonry block and attaching
with lead drives and bolts.
- 000.05401 hours per hangers
- QT 265 Fabricate and install Clevis type pipe support (on wood or metal
surface). Fabricate support. Install clevis type support on wood
or metal surface. Material handling.9-1987
- 000.38560 hours per pipe supports to install
- QT 267 Remove old and install new section of threaded pipe and fitting
2" ID.(Includes) Remove pipe and fitting. Install pipe and
fitting. 9-1987
- 000.36177 hours per sections of pipe to replace
- QT 268 Remove old and install new section of threaded pipe and fitting
4"-6" ID.(Includes) Remove pipe and fitting. Install pipe
fitting.9-1987
- 000.97599 hours per sections of pipe to replace

```

:
: PIPE: Threaded Pipe & Fittings, Miscellaneous Tasks.
: NOTE: See QT-998 & Qt-999 for portable scaffolding &
: ladder use respectively .
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TASK TIME STANDARDS LISTING

QT 270	*2"	1ea TEE &	3SECTIONS	(Install)	main to heat fixt
QT 273	*2"	1ea TEE to	*1"-3SECT&FITING	(Install)	secure w/c clamp
QT 277	*2"	2ea TEE&	3SECTIONS	(Install)	heater&feed&return
QT 274	*4"	1ea TEE to	*2"-3SECT&FITNG	(Install)	
QT 278	*6"	1ea TEE&	*4"-6SECT&FITNGS	(Install)	includes
					1 flange joint
QT 275	*2"	20ea	SECTIONS & FITTINGS	(Install)	in ditch/trench
QT 272	*2"	pressur	VALVE station in line	(Install)	
QT 276	*4"	pressur	VALVE-reducing station	(Fab&Install)	
QT 271			RADIATOR RETURN LINE	(Install)	inclcls.strainer, check valve,trap,support

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 270	<p>Install tee,2"ID,in main line/connect line to fixture (heating) with 3 pipe sections.(Includes)Open/close 2 valves.Cut main lin section out & thread 2 ends.Install tee to new end,nipple to te and connect union to other threaded end.Install nipple to tee, valve to nipple,another nipple & union.Cut/thread pipe section. Check & inspect joints.Additional tool handling.Material armloa</p> <p>001.34995 hours per tees to install</p>
QT 273	<p>Cut into 2"ID pipe line.Install tee,3 sections 1"ID pipe and 3 fittings.Secure pipe to wall with"C"clamps.Cut into line instal tee.One section & three fitting.Install 2 additional fittings not included in the previous detail.Cut & thread pipe section. Install pipe section, fittings.Inspect joints. Install c-clamp. Material handling.9-1987</p> <p>001.70825 hours per tee, pipe and fittings installation</p>
QT 277	<p>Cut into existing 2"ID feed and return lines;install tees.Extend 3 pipe sections for each line.Install unit heater.</p> <p>007.32224 hours per tees to install</p>

- QT 274 Cut into existing 4"ID pipe line.Install reducing tee & install 3 sections 2"ID pipe.Cut/thread pipe.Remove pipe section.Install pipe section.Assemble fittings to nipple.Connect union. Remove pipe hangers and replace.Install pipe section.Install couplings Install hangers. Material handling.9-1987
- 003.89579 hours per reducing tees to install
- QT 278 Cut into existing 6"ID pipe line.Install reducing tee/8 section 4"ID pipe & 8 fittings.Includes one flange joint.Cut pipe line. Remove pipe section.Cut /thread ends.Assemble fittings/flanges. Material handling(cwt).Install pipe section.Connect flange join Install pipe section,couplings and fittings.Remove hangers. Install new hangers. Material handling.9-1987
- 008.45851 hours per readucing tees to install
- QT 275 Install 100ft. of threaded pipe, 2"ID in ditch or trench with 20 fittings.Cut/thread pipe section.Install pipe section.Install pipe section.Install fittings.Check and inspect joints. Climb i and out of ditch. Move material.9-1987
- 005.51511 hours per threaded pipe to install
- QT 272 Fabricate/install pressure valve station in 2"ID line.(Includes) Install nipple to tee,ell to nipple,nipple to ell,1/2 union to nipples,valves to nipples,nipples to valves,install 1/2 union to nipples,nipples in P.R. valves.Measure fit,cut pipe for by-pass.Install pipe to ell & 1/2 union to pipe.Connect union nuts Install relief valve,cuppling on nipple,gage,strainer,add'l fit
- 001.85715 hours per valve stations to install
- QT 276 Fab./install reducing valve station in 4"ID thread Pipe line. Install nipple to tee,ell to nipple,nipple to ell,1/2 half unio to valves,valves to nipples, nipples to valves,nipples to P.R. valves,1/2 union to nipples.Measure for fit.Cut pipe for by-pas Install pipe to ell,1/2 union to pipe,relief valve,coupling on nipple,reduceing fitting,gage,strainer,pipe section.connect uni
- 005.61992 hours per valve stations to install
- QT 271 Install return line from radiator/heating element to main line. Includes installation of strainer,check valve and trap.Cut and thread pipe.Make supports.(Includes)Install valve,strainer,trap Cut and thread pipe. Install fitting to pipe. Install pipe to fitting. Inspect assemely. Move material.9-1987
- 001.45829 hours per return lines to install

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:
: PIPE: Sewer & Water,      Transite Pipe & Fittings      Install
: NOTE: See QT-998 & QT-999 for portable scaffolding & ladder
:       respectively.
:       * = ID of pipe
:
:
:
:

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TASK TIME STANDARDS LISTING

QT 279	*10" sewer pipe	SECTION	(Install)	in trench by crane
QT 280	*6-10" sewer pipe	SECTION	(Install)	by crane
QT 281	to*10" sewer pipe	SECTION-stacked	(Install)	by crane
QT 282	to*10" sewer pipe	FITTINGS	(Install)	in trench by hand
QT 283	*6-10" water pipe	FITTINGS	(Install)	by hand

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 279	Install section of new transite sewer pipe, up to 10" ID in a trench, using a crane.(Includes) Install section of pipe. Inspect joint. Additional material handling.9-1987	
	000.48066 hours per sections of sewer pipe to install	
QT 280	Install section of new transite water pipe, 6" - 10" ID using a crane.(Includes)Install section of pipe. Inspect joint. Additional material handling.9-1987	
	000.58346 hours per sections of water pipe to install	
QT 281	Install section of new transite sewer pipe or fitting in a vertical or "stack" position, up to 10", by crane.(Includes) Install pipe or fittings. Inspect joint. Additional material handling.9-1987	
	000.38480 hours per sections of sewer pipe to install	
QT 282	Install new transite sewer pipe fitting, up to 10" ID, in a trench, by hand.(Includes) Install fitting. Inspect joint. Additional material handling.9-1987	
	000.38734 hours per fittings to install	
QT 283	Install new transite water pipe fitting, 6" - 10" ID, by hand. Install fitting. Inspect joint. Additional material handling. 9-1987	
	000.49014 hours per fittings to install	

```

:
: PIPE:  Sewer & water,      Transite pipe & Fittings  Install
:                                           Remove & Repair
:
: NOTE:  See Qt-998 & QT-999 for portable scaffolding &
:         ladder use respectively.                *CONTINUED
:         * = ID of pipe
:
:
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:

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TASK TIME STANDARDS LISTING

QT 284	*10"	sewer pipe SECTION	using Transition coupling (Install)	by crane
QT 285	*10"	sewer pipe SECTION	using Transite coupling (Install)	by crane
QT 286	*6"-10"	water pipe SECTION-in existing,	using Transition coupling (Install)	by crane
QT 287	*6"-10"	water pipe SECTION-in existing,	using transite coupling (Install)	by crane
QT 288	to *10"	pipe SECTION-broken	(Remove)	by crane
QT 289	to *10"	pipe SECTION-hole-in	(Repair)-by clamp	

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 284	Install section of new transite sewer pipe in existing line up to 10" ID, using a transition coupling and a crane.(Includes) Install section of pipe. Inspect joint. Additional material handling.9-1987 000.89855 hours per sections of sewer pipe to install
QT 285	Install section of new transite sewer pipe in existing line up to 10" ID, using a transite coupling and a crane.(Includes) Install section of pipe. Inspect joint. Additional material handling.9-1987 000.92411 hours per sections of sewer pipe to install
QT 286	Install section of new transite water pipe in existing line, 6 - 10" ID, using a transition coupling and a crane.(Includes) Install section of pipe. Inspect joint. Additional material handling.9-1987 001.00135 hours per sections of water pipe to install
QT 287	Install section of new transite water pipe in existing line, 6" - 10" ID, using a transite coupling and a crane. (Includes) Install section of pipe. Inspect joint. Additional material handling.9-1987 000.99141 hours per sections of water pipe to install

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 288 Remove one section of broken transite pipe, up to 10" ID with a crane.(Includes) Remove transite pipe. Additional material handling.9-1987

000.49779 hours per sections of pipe to remove

QT 289 Repair hole in transite pipe with a clamp, up to 10" ID. (Includes) Repair pipe. Additional material handling.9-1987

000.19924 hours per holes to repair

PLUMBING FIXTURES: Wash basins, bathtubs, showers & fixtures

(Inspect,Rmv.Clean,Repair&Instl.)

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:
: PLUMBING FIXTURES: Wash basins, Bathtubs, Showers & Fixtures
: NOTE: See Qt-998 & QT-999 for portable scaffolding & ladder
: use respectively.
:
:
:

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TASK TIME STANDARDS LISTING

QT 292	WASHER-rubber in faucet	(Replace)
QT 291	GASKET-spud connection	in basin or closet (Replace) tank
QT 293	TRAP-sink	(Disconnect,Clean,Reconnect
QT 296	STRAINER & P-TRAP	-from wash Basin (Disconnect,Clean,Reconnect
QT 294	PIPE SUPPORT	(Install) to wood wall
QT 295	SUPPORT RODS-2ea	(Replace)-to wash Basin
QT 297	HANGERS-2ea wash basin	(Install)-for wall
QT 298	FAUCET- wash basin-combination type	using coppertubing (Install) & slip nuts
QT 290	SHOWER HEAD	(Remove,Inspect,Reinstall)
QT 299	WASH BASIN	inclds.brackets,drain (Remove) & supply lines
QT 302	WASH BASIN-wall type	(Install) installed
QT 303	WASH BASIN& TRAP& STRAINER	(Install)-wall type
QT 310	WASH BASINS-3ea	inclds.faucets,pullout (Install)plugs,hngers&suprts
QT 301	WASH BASIN-wall type	(Replace) wall brackets already
QT 305	WASH BASIN-wall type	inclds.old faucet rpl (Replace)w/combination type
QT 307	WASH BASIN	(Replace)-exchange hardware
QT 309	SERVICE BASIN	inclds.comb.faucet,trap (Install) 4pipes,8fittings
QT 308	SHOWER STALL	inclds.connect to exist (Install) drain,not water
QT 306	SHOWER STALL-lpc fiberglass	inclds.connect to exist (Install) drain, no water
QT 374	SHOWER/EYEWASH EMERGENCY-galvanized	(Install) connect to exist
QT 300	SHOWER SUPPLY PIPE	(Replace)
QT 304	BATH TUB	inclds.connect drain & (Install) faucets
QT 353	SHOWER STALL	remove walls, foundation, (Remove) insulation, drain.
QT 373	RESTROOM STALL-sheetmetal	(Install)lock, all hardware anchor,1 side panel & door

- QT 372 TOILET PAPER HANGER, (Install) 2 holes/screws
in sheet metal, measure/mark/drill
- QT 375 ACCESSORY/BATHROOM, (Install ONE PER TASK) soap dish,towel bar/
dispenser, mirror/shelf.2 holes/screws in concrete,plaster,wood.

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

- QT 292 Remove old and install new rubber washer in faucet. (Includes)
Turn valves on and off.Remove packing nut and install.Remove
valve stem and cap.Remove seat washer from stem, and install.
Pry out washer.Install washer. Install stem.Tighten main gland
valves if necessary.Test faucet.9-1987.
- 000.10898 hours per faucet washers to replace
- QT 291 Remove old/install new gasket/washer in spud connection to wash
basin or closet tank.Turn valve off/on.Loosen lucknut. Remove
spud connection.Remove gasket or washer.Clean spud seat. Instal
new gasket or washer. Install spud connection. Tighten locknut.
Inspect connection.9-1987
- 000.10090 hours per gaskets to replace
- QT 293 Disconnect & remove trap from sink,clean and install.(Includes)
Unscrew trap plug to drain and install new one.Disconnect union
and install new.Remove trap and install new. Inspect trap. Clea
trap.9-1987
- 000.12941 hours per sink traps to clean
- QT 296 Remove strainer/ p-trap from basin,clean and install.(Includes)
Disssconnect strainer from wall nipple and packing nut. Remove
strainer lock nut. Remove strainer washer and trap and install.
Remove and install strainer nut, packing nut and connect trap t
wall nipple.Clean out trap and strainer.9-1987
- 000.37201 hours per strainers or p-traps to clean
- QT 294 Install wall pipe support to wood wall.(Includes) Drill 2 holes
in wood wall.Install lag screws. Install base of support.Instal
rod. Install half round base.Install 2nd half over pipe. Instal
bolts. Move material.9-1987
- 000.17266 hours per pipe supports to install
- QT 295 Remove old/install 2 new support rods on wash basin.(Insludes)
Loosen nuts.Remove rods,washers,nuts. Install new nuts,washers.
Put rods into position. Tighten nuts. Adjust rods and check
alignment. Move material.
- 000.18689 hours per sets of support rods to replace (1 set is
2 support rods)

- QT 297 Install 2 hangers for wall wash basin.(Includes) Measure sink dimensions.Measure wall.Measure hole in brackets.Fit up bracket Mark holes on wall and drill.Put bolts in hanger.Put toggles on bolts.Put hangers on wall.Position toggle bolts in holes.Tighten toggle bolts.Material handling.9-1987
- 000.39753 hours per sets of basin hangers to install (1 set is 2 hangers)
- QT 298 Install combination faucet in wash basin, using copper tubing and slip nuts.(Includes) Install faucets. Assemble 2 flare nuts to tubing. Connect faucet and tubing.Connect tubing.9-1987
- 000.43798 hours per faucets to install
- QT 290 Remove inspect and reinstall shower head.(Includes) Turn water off/on. Remove shower head. Check shower head. Install shower head.9-1987
- 000.08986 hours per shower heads to inspect
- QT 299 Remove wall wash basin including disconnect drain, disconnect supply and remove wall bracket.(includes)Cut hot/cold valves of Unscrew trap plug to drain.Disconnect trap unions.Remove trap. Disconnect water supply unions.Remove wash basin (armload). Remove hanger screws. Remove hangers.Install plugs on water supply.Install cap on drain.Check & inspect connections.9-1987
- 000.52631 hours per wall basins to remove
- QT 302 Install wall wash basin,connect water supply,drains/faucets.Wall brackets already installed.(Includes)Position basin.Remove caps nipples,couplings.Fit tailpiece to coupling.Position tailpiece assembly.Install nipple on feed line,coupling,faucets.Connect tailpiece assembly to feed.Position trap.Connect trap unions. tighten slip nut on basin body.Turn hot/cold values on.Check le
- 000.91995 hours per wash basins to install
- QT 303 Install wash basin on wall,install cast iron trap/strainer. (Includes)Install new hangers.Install wall basin.9-1987
- 001.31748 hours per wash basins to install
- QT 310 Install 3 wash basins complete with faucets, pull out plugs, hangers and supports.(Includes)Install hangers.Install supports Install wall wash basin.9-1987
- 004.51311 hours per sets of wash basins to install (1 set is 3 wash basins)

QT 301 Remove broken wash basin/install new basin.Use all old fittings (wall type).(Include)Remove faucet handle/screws,escutcheons/handles.Disconnect feed lines,drain from trap,basket.Remove basket/gasket,old basin.Install new basin,basket in basin,faucet escutcheons,faucet handles.Connect drain.Turn water on/off.Chec all joints for leaks.Material handling.9-1987

000.69923 hours per wash basins to replace

QT 305 Remove old wall type wash basin with faucet/install new basin with combination faucet.(Includes)Hot/cold water off.Remove nut on tailpiece,washer,faucet.Unscrew trap plug to drain.Disconnect trap union.Remove wash basin from supports.Install new wall was basin from supports.Install new wall wash basin.Install copper tubing,combination faucets and hardware.9-1987

001.53752 hours per wash basins to replace

QT 307 Remove old wash basin/install new.Exchange hardware from old to new.(Includes) Remove wall basin including disconnecting drain supply.Remove hanger screws,hangers.Mover material(armload). Check hangers.Remove/install faucets.Install hangers.Install wash basin,connect drains,supplies and faucets.9-1987

002.31106 hours per wash basins to replace

QT 309 Install 22"x18"service basin,enameled iron/concrete, with faucet combination/3"trap.Includes 4 pipe sections and 8 fittings.Uncrate service sink(4 pcs./4nails per).Install hangers,connect trap to sink & combo faucet.Position sink.Cut,ream,thread 4 sec of pipe.Measure pipe install.Assemble 9 fittings,4 pipes.Connec hot/cold water,trap spigot end to soil pipe(bell).Turn valvesof

003.61182 hours per service basins to install

QT 308 Install shower stall, connect to existing drain water piping not included.(Includes)Uncrate shower stall.Position shower base an connect to sewer line.Install shower sides.Secure sides to base (8 holes per side).Measure pipe.Cut/thread supply pipe.Install faucet fittings,lock nuts,supply pipe,elbow 90 degree,shower ar shower head.Check and inspect.Material handling.9-1987

002.39015 hours per shower stalls to install

QT 306 Install 1 pcs.fiberglass shower stall,connect to existing drain, water piping not included.(Includes) Uncrate shower stall.Showe stall positioned.Connect shower base to sewer line.Measure pipe Cut and thread supply pipe.Install faucet fitting,eschtcheons, lock nuts,supply pipe,elbow 90 degrees,shower arm,shower head. Check and inspect material.9-1987

002.03495 hours per shower stalls to install

- QT 374 SHOWER/EYEWASH EMERGENCY, assemble and install galvanized emergency system. Turn off/on water system, unpackage, disassemble, reassemble with tape/pipe dope.
Install system to exterior of building with PVC pipe clamps, connect to existing water source. Ladder used.

001.76583 hours per SHOWER/EYEWASHES to be installed.
- QT 300 Remove existing shower supply pipe/install new pipe.(Includes) Turn water off/on.Remove shower head,shower arm,pipe straps, supply pipe,elbow.Measure pipe.Cut/thread supply pipe.Install supply pipe,elbow 90 degrees,shower arm,shower head.Check installation. Move materials.Install pipe straps.9-1987

000.54202 hours per shower pipes to replace
- QT 304 Install bath tub and connect faucets/drain.(Includes)Level and mark line for brackets and drill holes for screws.Install screw Position brackets.Install tub on brackets.Asjust brackerts for proper drainage.Secure lock nuts.Install tub strainer.Connect strainer to trap,trap to drain line.Install faucets.Connect faucets to supply lines.9-1987

002.03759 hours per bath tubs to install
- QT 353 Shower stall, remove 3 walls, foundation, insulation from pipes, fixtures. Drain is removed with heat. debris is removed by wheelbarrow.

001.28873 hours per shower stall
- QT 373 STALL, RESTROOM, INSTALL-(one side & a door & all hardware.) Install new restroom stall, (sheetmetal).INCLUDES: Measure wall floor & mark, measure/mark stall for brackets. Assemble drill & screw holes in floor, install anchors, hinges, lock and door.

002.58528 hours per stall
- QT 372 TOILET PAPER HANGER, Install.
Install hanger with 2 sheet metal screws, measure/mark and drill 2 holes in stall partition and secure.

000.08545 hours per paper hanger
- QT 375 Accessory/Bathroom, install one of the following bathroom accessories per task time. Soap dish, mirror, mirror shelf, towel bar, or towel dispenser. Measure/mark, drill 2 holes in concrete, plaster, or hard wood surface, insert anchor. Secure with 2 sheet metal screws.

000.06413 hours per accessory

PLUMBING FIXTURES: Service sinks, urinals, closet bowls, etc.

(Rmv.Clean,Repair&Instl.)

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: PLUMBING FIXTURES:  Service-Sinks, Urinals, Closet Bowls, etc...
: NOTE:  See QT-998 & QT-999 for portable scaffolding & ladder
:                                     respectively.
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TASK TIME STANDARDS LISTING

QT 314	TOILET TANK WASHER-ball cock	(Replace)
QT 317	FAUCET-combination type & tube connect	(Remove) from basin
QT 322	FAUCET-combination type	(Remove) on sink
QT 320	FAUCET-combination type	(Install)-to existing sink
QT 409	FAUCET-kitchen sink lever type	(Install) New Installation
QT 316	FAUCET-wash basin	(Replace)
QT 315	EYEWASH	rough plumbing& holes
		(Install) for bolts not incl
QT 407	SINK-double kitchen	(Install) complete new sink installation
QT 330	SINK-counter top type	(Install) counter already in place
QT 334	SINK-service type	inclds.faucets,hangers
		(Remove) trap & cap pipes
QT 411	SINK-double kitchen	(Install) secure in counter top with clamps .
QT 329	CLOSET SINK-lead jointed	rough plumbing
		(Install) already in place
QT 319	GARBAGE DISPOSAL-in existing sink	(Install) elec.not incld.
QT 313	GARBAGE DISPOSAL-new sink	during new sink instl
		(Install) elec.not incld.
QT 341	GARBAGE DISPOSAL	inclds.clean trap
		(Replace) elec.not incld.
QT 321	FLUSH VALVE-pressure type	(Remove) toilet bowl
QT 327	FLUSH VALVE-pressure	(Install)to rough in plumb
QT 311	FLUSH VALVE-pressure type	in water closet
		(Replace) or urinal
QT 323	FLUSH VALVE	(Overhaul & Repack)
QT 312	STRAINER& GRILL& TAIL PIECE	in urinal sink or
		(Install) drinking fountain
QT 318	STRAINER-urinal type	(Replace)
QT 325	URINAL-18"wide china	(Remove) inclds.flush valve
QT 333	URINAL-wall type	flush valve &
		(Install) strainer in place
QT 339	URNIAL-floor type	inclds.flush valve
		(Install) drain,supply&sew
QT 335	URINAL-floor type	inclds.strainer

QT 336	URINAL-4ft wall hung	(Install)P trap& sewerlines to existing supply &
QT 324	URINAL-wall hung	(Install) drain lines inclds.flush valve&
QT 326	URINAL-P TRAP	(Remove) P trap inclds.spud &
QT 331	TOILET BOWL	(Replace) tail piece
QT 328	TOILET TANK PARTS-refurbish	(Reset)
QT 332	TOILET BOWL& FLUSH VALVE	(Replace)-rework tank prefabed using
QT 337	TOILET BOWL& TANKS	(Install) sealing ring inclds.new backboard
QT 338	TOILET BOWL & TANK	(Install) &connecting pipes
QT 408	STRAINER-BASKET sink	(Replace)
QT 410	SPRAYER-for kitchen sink	(Install) new installation
QT 412	VALVE-shutoff sink	(Install) new installation from wall stub
QT 413	LINE-water supply sink	(Install) connect water supply line
QT 413	LINE sink water supply	(Install) connect from valve to faucet
QT 414	LINE-drain complete double sink	(Install) new installation
QT 415	ADAPTER-shutoff valve sink	(install) new installation for shutoff valve
QT 416	VALVE-shutoff sink water supply	(install)connect to threaded adapter on stub
QT 417	PIPE-copper drain line	(Cut) with tubing cutter
QT 418	CAN-pry off lid type	(Open & Close)

QT 314 Remove old/install new washer in elevated ball cock(toilet tank) (Includes)Turn valve off/on.Remove/install cover, 2 screws, valve rod lifter, valve rod.Remove/install washer. Grind valve seat. Check operation.9-1987

000.14416 hours per toilet washers to replace

QT 317 Disassemble/remove combination faucet and tube connections from wash basin.(Includes)Turn valves off.Remove handle screw, handle escutcheon nut, escutcheon, lock nut on faucet, lock nut on spout slip nut on spout, combination, slip nut from tubing, coupling, and tubing.9-1987

000.18909 hours per combination faucets to remove

QT 322 Remove/install new combination faucet assembly on service sink. (Includes)Turn on/off.Remove indicator cap, handle screw, handle, escutcheon cap, escutcheon, locknut on faucet, lock nut on spout, slip nut on spout, combination unit, slip nut from tubing, tubing. Install faucet fitting, escutcheon caps, locknuts, combination faucet. Test faucets. Check and inspect.9-1987

000.36316 hours per combination faucets to replace

QT 320 Install combination faucet to existing connections on service sink.(Includes)Turn valves off/on.Install faucet fittings, lock nuts, escutcheons, coupling nuts and combination faucet. Turn valve off/on and test hot and cold faucets. Check and inspect.9-1987

000.28132 hours per combination faucets to install

QT 409 Install single handle water faucet assembly on sink (new sink installation)--DOES NOT INCLUDE: connecting to water supply

000.09755 hours per per single handle water faucet to be installed on new sink

QT 316 Remove faucet and install new one on wash basin.(Includes) Remove screw plug/screw in handle and install. Remove/install handle, escutcheon, locknut, faucet. Inspect connection. Turn valve off/on.9-1987

000.15199 hours per faucets to replace

QT 315 Install eyewash, rough plumbing already installed. Holes for lag bolts have been previously prepared.(Includes) Position eyewash. Install three lag bolts to floor. Connect drain. Install faucet. Turn water on/off. Check joints for leaks. Material handling. 9-1987

000.18589 hours per eyewashes to install

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

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- QT 407 Install double bowl kitchen sink (new installation)--INCLUDES:
2-basket strainers; single handle faucet; hand sprayer; 2-shut
off valve assemblies; 2-water supply lines; complete drain line
assembly; securing sink in countertop; sealing sink at countertop;
testing faucet for proper operation; inspecting plumbing
for leaks; tightening leaking connection; inspecting connection
- 001.00946 hours per per complete double bowl kitchen sink assembly to be installed
- QT 330 Install countertop double sink. Counter top already cut and installed.
- 001.07041 hours per countertop sinks to install
- QT 334 Remove 22"x18" service sink (enameled cast iron/concrete) faucets
combination, hangers, and 3" trap and cap pipes. (Includes) Cut off
hot/cold water. Remove trap from soil pipe. Disconnect hot/cold
water. Remove sink from wall, lock nuts, escutcheons. Disconnect
faucet fitting, trap from sink. Remove hanger nuts, hanger bolts,
hangers. Move material. Cut off main water valve. Cap pipes. Extra
- 001.60329 hours per service sinks and combination faucets to remove
- QT 411 Place sink in countertop--INCLUDES: position sink in countertop;
align sink with front of counter; secure sink to countertop with
clamps; caulking around sink adjacent to counter
- 000.24758 hours per per sink to be secured in countertop with clamps and caulked
- QT 329 Install a closet sink, leaded joint. Rough plumbing already done
Filling in area surrounding sink not included. (Includes) Install
closet sink to rough plumbing. Position grate. Install screws on
grate. 9-1987
- 000.95922 hours per closet sinks to install
- QT 319 Install garbage disposal in existing sink. Clean trap. Dishwasher
near sink. Electrical not included. (Includes) Unpack disposal.
Remove drain sleeve, trap. Disconnect unions. Clean old putty off
around drain. Apply putty around opening. Place sink sleeve in
opening. Wipe around sleeve. Place gasket, backup ring, mounting
ring on sleeve. Slide assembly above groove on sleeve/insert snap
- 000.49076 hours per garbage disposals to install
- QT 313 Install garbage disposal, new sink installation. Dishwasher near
sink, electrical not included.
- 000.39744 hours per garbage disposals to install

QT 341 Remove/install new garbage disposal.Clean trap.Electrical not included.(Includes)Disconnect discharge tube from trap,hose to dishwasher.Loosen mounting ring 3 screws.Remove disposal,snap ring.Remove mounying ring,backup ring and gasket.Install new disposal.9-1987

000.68753 hours per garbage disposals to replace

QT 321 Remove toilet bowl and flush valve.(Includes)Turn valve off. Remove packing nuts, flush valve, nuts from bolts,bowl from flange,gasket. Move material.9-1987

000.31679 hours per toilet bowls to remove

QT 327 Install flushometer(pressure valve)to roughed-in plumbing for water closet/urinal.(Includes)Cut/thread nipple.Install nipple/angle stop,packing nuts on tailpiece.Set flush valve for measur tailpiece.Remove flush valve/tailpiece and packing nuts.Cut tai piece to length.Install packing nuts on tailpiece,flush valve. Tighten packing nuts.Turn on angle stop.Check/inspect.Adjust fl

000.73788 hours per flushometers to install

QT 311 Remove or install flushometer (pressure valve) in water closet or urinal.(Includes) Turn valve off. Remove packing nuts. Remov flush valve. Check for leak.9-1987

000.04316 hours per flushometers to replace

QT 323 Overhaul/repack flush valve.(Includes)Remove threaded cover,disc inside cover,relief valve,diaphragm,union,handle,gasket,handle packing nut,packing,bushing,spring.Install diaphragm,disc,relie valve,inside coyer.Clean parts.Install spring,bushing,packing nut,handle,handle lock nut.Repack handle.Check.9-1987

000.40856 hours per flush valves to overhaul

QT 312 Install chrome tube type strainer and grill and tail piece in urinal sink, or drinking fountain.(Includes) Install gasket. Install strainer, washer & grill. Install lock nut. Install metal grid in strainer. Install tail piece.9-1987

000.10232 hours per strainers,grills or tails to install

QT 318 Remove/install new urinal strainer.(Includes)Remove lock nut and union. Remove strainer. Install strainer.9-1987

000.19780 hours per urinal strainers to replace

QT 325 Remove 18"wide vitreous china urinal;includes removing flush valve.(Includes)Turn valve off.Remove packing nuts,flush valve. Loosen locknuts.Remove tailpiece from trap,locknuts,tail piece from urinal,urinal.Extra walking between floors.Move materials. 9-1987

000.49228 hours per china urinals to remove

QT 333 Install urinal, (flush valve/strainer installed).(Includes) Uncrate urinal.Install gasket.Measure urinal dimensions.Fit up urinal to wall.Measure mark/hand drill 2 holes.Put in bolts. Put nuts on bolts.Install flushometer pipe.Install urinal.Clean urinal.Connection unions.Turn water off/on.Adjust parts.Check and inspect.Material handling.9-1987

001.14181 hours per urinals to install

QT 339 Urinal floor type,install urinal,flush valve and drain connect to water supply and 3"ID sewer line, leaded joints.(Includes) Install urinal. Install flush valve. Install P-trap and connect to drain line 3" leaded joint.9-1987

003.75179 hours per floor urinals to install

QT 335 Urinal floor type - install strainer and p-trap and connect to 3"sewer line,leaded joints.(Includes) Assemble threaded fitting Install P-trap.9-1987

001.37210 hours per strainer and p-traps to install

QT 336 Install 4'long urinal (wall hung trough type)to existing supply and drain lines.(Includes)Install wall pipe support.Install wall hangers for urinal.Install urinal(on hangers).Install flush valve.Install strainer and trap.9-1987

002.04712 hours per wall urinals to install

QT 324 Remove wall hung urinal from concrete block wall,remove flush valve and "p"trap.Turn valve off.Remove packing nuts,flush valve.Unscrew trap plug to drain.Disconnect unions.Remove trap. Remove toggle bolts.Remove urinal from wall.Move material. 9-1987

000.45113 hours per wall urinals to remove

QT 326 Remove/install new "p"trap,spud and tail piece(1-1/2")on urinal 1-1/2"ID.(Includes)Remove packing nuts,tailpiece locknut,spud nut,spud and gasket.Free trap and pull off.Clean spud seat. Install new P trap from drain pipe.Install new spud and gasket. Hand tight.Install 2 gaskets on tail piece,1 nut on tail piece. Connect packing nuts.Check mechanism.Move material.9-1987

000.53109 hours per p-trap, spud and tails to replace

- QT 331 Reset toilet bowl.(Includes)Turn valve off/on.Remove packing nuts.Remove/install nuts from bolts.Remove bowl from flange and install.Remove/install gasket.Apply putty.Clean putty and bowl foundation.Connect packing nuts.Check operation.Move material. 9-1987
- 001.06727 hours per toilet bowls to reset
- QT 328 Remove/install new parts in toilet tank.(Includes)Turn valve off on.Remove/install cover,float on rod,float rod,float valve.Clea valve seat.Remove/install lock nut on valve,washer float valve, rod in ball,lift rod,rubber ball in valve,flush pipe nuts,flush pipe lock nuts,supply slip nut.Install rubber gasket on flush pipe.Adjust parts.Check operation.Move material.9-1987
- 000.93103 hours per toilet tanks to replace parts
- QT 332 Install toilet bowl and flush valve using pre-fabricated sealing ring.(Includes)Uncrate bowl. Place gasket. Install bowl. Put bolts in ring. Install nuts on bolts. Install flushometer. Turn valve on. Check and inspect.9-1987
- 001.23802 hours per toilet bowls to install
- QT 337 Install toilet bowl to existing drain/flush tank with new backboard and connecting pipes.(Includes)Uncrate bowl/tank.Install backboard for tank.Measure for hangers.Mark/drill 4 holes.Place gasket in existing drain.Position toilet bowl.Install nuts on bolts.Install bolts through ring.Apply putty.Place tank on boar Install lag screws.Connect water pipe.Install nut on slip joint
- 002.56773 hours per toilet bowls to install
- QT 338 Remove/install new toilet bowl/flush tank with new backboard. (Includes)Turn water off/on.Remove seat nuts,seat.Disconnect flush pipe,feed line.Remove lag screws.Remove tank from wall. Remove stool nuts from bolts. Remove bowl. Bolts from ring. Remove gasket. Install new bowl/tank with new backboard.Move material.9-1987
- 003.16260 hours per toilet bowls to replace
- QT 408 Install basket strainer in kitchen sink (new sink installation) --DOES NOT INCLUDE: connecting to drain line
- 000.05331 hours per per basket strainer to be installed in new sink

QT	410	Install hand water sprayer on sink (new sink installation)	
		000.05011 hours per per hand water sprayer to be install on new sink	
QT	412	Install shutoff valve on water supply line stub (new sink installation)--INCLUDES: cutting water supply stub; installing threaded adapter on stub; installing shutoff valve on threaded adapter	
		000.07300 hours per per shutoff valve to be installed on new water supply line	
QT	413	Install connecting line from shutoff valve to faucet intake connection for sink	
		000.04016 hours per per connecting line to be installed for sink	
QT	413	Install connecting line from shutoff valve to faucet intake connection for sink	
		000.04016 hours per per connecting line to be installed for sink	
QT	414	Install complete drain line assembly for double bowl sink (new sink installation)--INCLUDES: 2-tailpieces; T-fitting; extension pipe; P-trap; 2-elbow pipes; cut pipe as required for assembly	
		000.22086 hours per per complete drain line assembly for double bowl sink	
QT	415	Install threaded adapter on water supply line for shutoff valve installation--INCLUDES: measuring and marking location of cut; cutting copper pipe with tubing cutter; securing adapter on pipe using solder and propane torch	
		000.04694 hours per per threaded adapter to be installed on water supply line	
QT	416	Install water supply shutoff valve on threaded adapter(for sink)	
		000.02607 hours per per shutoff valve to be installed on water supply line for sink	
QT	417	Cut copper pipe for sink drain with tubing cutter--INCLUDES: measure and mark location of cut on pipe; position tubing cutter to mark on pipe; cut pipe; discard removed piece of pipe	
		000.01498 hours per per cut of pipe	
QT	418	Open and Close can up to 6" diameter (pry off lid type)	
		000.00514 hours per per can opened and closed	

Additional time for use of portable scaffolding or ladder.

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: Additional time for use of portable scaffolding or ladder.
: Scaffolding use does not include initial setup.
: May be used in addition to any work associated with the
: Pipefitting, Plumbing Handbook as required.
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TASK TIME STANDARDS LISTING

QT 998 General time for use of PORTABLE SCAFFOLDING
 QT 999 General time for use of LADDER

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 998 General time for use of portable scaffolding. Does not include initial setup.
 Based on moving scaffolding 10ft per occurrence and climbing up and down one time.

000.03009 hours per occurrences you use portable scaffold

QT 999 General time for use of ladder. Based on two set-ups per occurrence and climbing up and down three times.(Includes) Stepladder,set-up and take down,pick up and put down, pick up and put down, carry 20 paces. Climb up or down stepladder.9-198

000.04800 hours per occurrences you use ladder

pump, nozzles, hoses, fuel pits.
(Calibrate and Replace)

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: FUEL SYSTEMS and RELATED AREAS.
: NOTE: SEE QT-998 & QT-999 for portable scaffold and ladder.
: TASK INCLUDES: Remove, replace, install and test hardware.
: Preform maintenance on fuel systems and items.
:
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:

TASK TIME STANDARDS LISTING

QT 354	FUEL-METERS & PUMPS	(Calibrate) using calibrated tank
QT 355	FUEL-PUMP NOZZLE	(Replace)
QT 356	FUEL-PUMP HOSE	(Replace)
QT 368	HYDRO-TEST FUEL LINES	(Test)

EPS TASK TIME STANDARDS - DESCRIPTIONS AND UNIT HOURS

QT 354 Calibrate fuel meters and pumps. Includes: fill metered five gal. can, observe sight gage on can to determine accuracy of fuel meters. Adjust to calibration.

000.11204 hours per meter

QT 355 Replace fuel pump nozzle. Includes: tools to pump, unlock/lock nozzle, drain fuel nozzle in bucket, remove old nozzle, new teflon tape on threads, mate hose and new nozzle, test new nozzle, empty residual fuel into ground sump.

000.17328 hours per nozzle

QT 356 Replace fuel pump hose. Includes: tools to pump, unlock/lock pump nozzle, drain nozzle/hose in bucket, remove/replace nozzle remove old hose, teflon tape on threads, replace new hose, mate hose and nozzle, empty residual fuel into ground sump.

000.20925 hours per hose

QT 368 Fuel line, hydro test 6-8" dia., Move length of hose to test area with fork lift. Job prep., get water source, fittings, tools, materials. Seal hose ends, assemble fittings, fill hose to capacity with water. Tighten all areas as needed, hand pump 150 psi on gage and hold 5 min. Check for leaks. Release pressure, drain water, remove/store hardware.

000.94341 hours per test

TASK TIME STANDARDS DEVELOPMENT BACKUP

- QT 001 1 TURN VALVES OFF AND ON. XXX
2 REMOVE PLUG AND INSTALL. XXX
3 REMOVE SCREEN AND INSTALL NEW SCREEN. XXX
4 CLEAN SCREEN SEAT.
- QT 002 1 TURN VALVE OFF AND ON.
2 REMOVE CAP.
3 REMOVE WASHER ASSEMBLY.
4 REMOVE STRAINER.
5 CLEAN SCREEN, VALVE AND SEAT.
6 INSTALL STRAINER.
7 INSTALL WASHER ASSEMBLY.
8 INSTALL CAP.
- QT 003 1 TURN VALVES OFF AND ON.
2 REMOVE CAP.
3 REMOVE AND INSTALL DISK.
4 CLEAN CAP, DISK AND PARTS.
5 INSTALL CAP.
6 INSPECT ASSEMBLY.
- QT 004 1 TURN VALVE OFF AND ON.
2 REMOVE POCKET AND CAP.
3 CLEAN POCKET.
4 INSTALL POCKET AND CAP.
- QT 005 1 REMOVE NUTS.
2 REMOVE BOLTS.
3 REMOVE HOLDER AND STRAINER.
4 CLEAN HOLDER.
5 CLEAN STRAINER.
6 INSTALL HOLDER AND STRAINER.
7 INSTALL BOLTS.
8 INSTALL NUTS.
9 TURN VALVE ON AND OFF.
10 INSPECT ASSEMBLY.
- QT 006 1 TURN VALVES OFF AND ON.
2 REMOVE PLUG.
3 REMOVE SCREEN AND REINSTALL.
4 CLEAN SCREEN, SCREEN SEAT PLUG.
5 REINSTALL PLUG.
6 MATERIAL HANDLING.
7 INSPECT PARTS.
- QT 007 1 TURN VALVE ON AND OFF.
2 REMOVE AND INSTALL END PLATE BOLTS.
3 REMOVE/INSTALL END PLATE.
4 REMOVE AND INSTALL SCREEN.
5 CLEAN SCREEN.
6 CLEAN HOLDER.
7 MAKE GASKET.
8 INSTALL GASKET.

QT 008 1 TURN VALVES OFF AND ON.
2 DISCONNECT UNIONS.
3 DISCONNECT NIPPLES FROM TRAP.
4 ASSEMBLE TRAP AND NIPPLES.
5 INSTALL ASSEMBLY IN LINE.
6 MATERIAL HANDLING.

QT 009 1 CHANGE NIPPLE ON STEAM LINE.
2 ATTACH REGULATOR TO STEAM RACK.
3 ATTACH NIPPLE AND ELBOW FOR STEAM DEFLECTION.
4 OPEN AND CLOSE STEAM LINE VALVES.
5 ADJUST LINE REGULATOR TO DESIRED PRESSURE.
6 CHECK REGULATOR OPERATION AND CHECK FOR LEAKS.
7 REMOVE NIPPLE AND ELBOW.
8 REMOVE REGULATOR.

QT 010 1 TURN VALVES ON AND OFF.
2 REMOVE 4 SCREWS FROM COVER.
3 REMOVE LOWER PLUG.
4 REMOVE CAP, GASKET, FLOAT AND STRAINER.
5 CLEAN TRAP.
6 CLEAN COVER, BUCKET AND STRAINER.
7 INSTALL STRAINER, FLOAT GASKET AND CAP.
8 INSTALL SCREWS.
9 INSTALL PLUG.
10 MATERIAL HANDLING.

QT 011 1 TURN VALVE OFF AND ON.
2 CUT AND THREAD LINE.
3 REMOVE PIPE SECTIONS.
4 REMOVE SUPPORT NUTS AND INSTALL.
5 REMOVE AND INSTALL SUPPORT.
6 INSTALL PIPE SECTION AND DRIP POCKET UNION ASSEMBLY.
7 CONNECT UNION.

QT 012 1 REMOVE AND INSTALL NUTS.
2 REMOVE AND INSTALL BOLTS.
3 REMOVE COVER, FLOAT, CASING AND SCREEN, AND REPLACE
4 CLEAN ALL PARTS.
5 TEST FOR LEAKS.

QT 013 1 MEASURE FOR LOCATION 2 MEN.
2 CUT PIPE, REAM AND THREAD END.
3 REMOVE PIPE SECTIONS 2 MEN.
4 CONNECT NIPPLES TO FITTING.
5 ATTACH UNIONS.
6 INSTALL UNIT INTO POSITION.
7 CONNECT UNIONS.
8 OPEN AND CLOSE VALVE.
9 INSPECT WORK.
10 MATERIAL HANDLING.

QT 014 1 ASSEMBLE STRAINER 2 NIPPLES AND UNION.
2 TURN VALVES OFF AND ON.
3 CUT 2" PIPE HAND CUTTERS.
4 DISCONNECT PIPE SECTION.
5 CUT REAM AND THREAD 1 END.
6 INSTALL ASSEMBLY IN LINE.
7 MATERIAL HANDLING.
8 MEASURE FOR LOCATION 2 MEN.

QT 015 1 TURN VALVES ON AND OFF.
2 DISCONNECT UNIONS.
3 CONNECT UNIONS.
4 REMOVE BOLTS AND INSTALL.
5 REMOVE AND INSTALL COVER.
6 REMOVE FLOAT AND GASKET AND INSTALL.
7 REMOVE PLUG.
8 INSTALL PLUG.
9 REMOVE BALL VALVE SEAT AND INSTALL.
10 CLEAN INSIDE OF TRAP.
11 CLEAN COVER.
12 CLEAN PLUG, FLOAT AND VALVE SEAT.
13 MAKE NEW GASKET.
14 MATERIAL HANDLING.

QT 016 1 INSTALL ASSEMBLY IN LINE.
2 TURN VALVE ON AND OFF.
3 CUT PIPE REAM AND THREAD ENDS.
4 REMOVE PIPE SECTIONS.
5 ASSEMBLE PIPE SECTIONS AND FITTINGS.
6 POSITION ASSEMBLY.
7 INSPECT WORK, COMPLEX EXAM.
8 MATERIAL HANDLING.

QT 017 1 DISCONNECT UNION.
2 REMOVE OLD PACKING RINGS.
3 CLEAN GLAND AREA.
4 PACK JOINT WITH NEW RINGS.
5 CONNECT UNION.
6 INSPECT JOINT.

QT 018 1 INSTALL NIPPLE ON JOINT.
2 INSTALL UNION ON PIPE AND NIPPLE.
3 POSITION JOINT ASSEMBLY.
4 CONNECT JOINT TO PIPE.
5 TIGHTEN UNION CONNECTION.
6 TURN (2) VALVES ON.
7 CHECK AND INSPECT WORK.
8 MOVE MATERIAL (ARMLoad).

QT 019 1 TURN VALVES OFF AND ON.
2 DISCONNECT AND CONNECT UNION.
3 COMPRESS AND EXPAND JOINT.
4 DISCONNECT JOINT.
5 CONNECT JOINT.
6 REMOVE AND POSITION JOINT ASSEMBLY.
7 INSTALL NIPPLE.
8 REMOVE NIPPLE.
9 MOVE MATERIAL (ARMLOADS).
10 CHECK AND INSPECT WORK.

QT 020 1 TURN VALVE OFF AND ON.
2 DISCONNECT JOINT UNION.
3 OPEN PACKING JOINT.
4 REMOVE OLD PACKING.
5 MEASURE AND CUT PACKING.
6 CLEAN PACKING AREA.
7 PACK JOINT.
8 CLOSE PACKING JOINT.
9 CONNECT PACKING JOINT UNION.

QT 021 1 REMOVE AND ASIDE BASEPLATE.
2 TURN (2) VALVES OFF.
3 REMOVE EXPANSION JOINT ASSEMBLY.
4 REMOVE FLANGE GASKETS.
5 COMPRESS EXPANSION JOINT.
6 LOOSEN AND REMOVE BASEPLATE NUTS.
7 REMOVE BASEPLATE BOLTS.
8 MOVE MATERIAL.

QT 022 1 MOVE MATERIAL (CWT.).
2 INSTALL EXPANSION JOINT.
3 INSTALL NUTS ON BASEPLATE BOLTS.
4 EXPAND JOINT FOR FIT.
5 MAKE TWO GASKETS.
6 INSTALL GASKETS.
7 TURN (2) VALVES ON.
8 CHECK AND INSPECT WORK.

QT 023 1 CUT, REAM AND THREAD PIPE.
2 REMOVE PIPE SECTIONS.
3 INSTALL PIPE SECTIONS.
4 INSTALL EXPANSION JOINT, NIPPLES AND UNION.
5 COMPRESS AND EXPAND JOINT.
6 TURN VALVES OFF AND ON.
7 INSPECT WORK.
8 MATERIAL HANDLING.

QT 024 1 REMOVE PACKING GLAND NUTS.
2 REMOVE GLAND BOLTS.
3 MOVE GLAND OPEN.
4 REMOVE OLD PACKING.
5 MEASURE AND CUT PACKING RINGS.
6 PACK JOINT WITH NEW RINGS.
7 CLOSE PACKING GLAND.
8 INSTALL PACKING GLAND BOLTS.
9 INSTALL GLAND NUTS.
10 CLEAN GLAND AREA.

- QT 025 1 TURN VALVES OFF AND ON.
2 REMOVE PACKING GLAND NUTS.
3 REMOVE PACKING GLAND BOLTS.
4 MOVE GLAND OPEN.
5 REMOVE OLD PACKING RINGS.
6 CLEAN GLAND AREA.
7 MEASURE AND CUT PACKING RINGS.
8 PACK JOINT WITH NEW RINGS.
9 CLOSE PACKING GLAND.
10 INSTALL PACKING GLAND BOLTS.
11 INSTALL PACKING GLAND NUTS.
- QT 026 1 TURN VALVES OFF AND ON.
2 REMOVE PACKING GLAND NUTS.
3 REMOVE GLAND BOLTS.
4 MOVE GLAND OPEN.
5 REMOVE OLD PACKING RINGS.
6 CLEAN GLAND AREA.
7 MEASURE AND CUT PACKING.
8 PACK JOINTS WITH NEW RINGS.
9 CLOSE PACKING GLAND.
10 INSTALL PACKING GLAND BOLTS.
11 INSTALL PACKING GLAND NUTS.
- QT 027 1 TURN VALVES OFF AND ON.
2 DISCONNECT AND REMOVE PIPE SECTION.
3 CUT AND THREAD PIPE - 1 END.
4 REMOVE FLANGED END.
5 INSTALL FLANGED END.
6 INSTALL PIPE SECTION AND EXPANSION JOINT.
7 INSTALL ANCHOR BOLT NUTS.
8 MAKE TWO GASKETS.
9 MATERIAL HANDLING (CWT.)
- QT 028 1 REMOVE PACKING GLAND NUTS, INSTALL.
2 UNSCREW TIE RODS AND INSTALL.
3 REMOVE WASHERS AND INSTALL.
4 MOVE TIE RODS AND INSTALL.
5 MOVE GLAND OPEN AND CLOSE.
6 REMOVE OLD PACKING.
7 MEASURE AND CUT NEW PACKING.
8 MATERIAL HANDLING.
9 INSPECT WORK.
10 TURN VALVES OFF AND ON.
- QT 029 1 REMOVE PACKING GLAND NUTS AND INSTALL.
2 UNSCREW TIE RODS AND INSTALL.
3 MOVE TIE RODS AND INSTALL.
4 MOVE GLAND OPEN AND INSTALL.
5 REMOVE OLD PACKING RINGS.
6 MEASURE AND CUT PACKING RINGS.
7 PACK JOINTS WITH NEW RINGS.
8 MOVE MATERIAL.
9 CHECK AND INSPECT WORK.

QT 030 1 MOVE MATERIAL AND TOOLS.
2 CUT PIPE REAM AND THREAD ONE END.
3 REMOVE FLANGED SECTION (END).
4 INSTALL FLANGES TO PIPE.
5 INSTALL NUTS ON BASEPLATE BOLTS.
6 MAKE TWO GASKETS.
7 COMPRESS AND EXPAND JOINT FOR PROPER FIT.
8 CONNECT FLANGES TO JOINT.
9 TURN VALVES ON AND OFF.
10 CHECK AND INSPECT WORK.
11 CLIMB IN AND OUT OF DITCH.
12 EXTRA WALKING.

QT 031 1 TURN VALVES OFF AND ON.
2 UNSCREW BONNET RING.
3 REMOVE AND INSTALL ASSEMBLY.
4 INSTALL BONNET RING.

QT 032 1 REMOVE LOCK NUT ON VALVE STEM.
2 REMOVE SPRING REGULATOR NUTS.
3 REMOVE OLD SPRING.
4 INSPECT OLD SPRING.
5 INSTALL NEW SPRING.
6 INSTALL SPRING REGULATOR NUTS.
7 INSTALL LOCK NUT ON VALVE STEM.

QT 033 1 REMOVE LOCKNUT AND INSTALL.
2 REMOVE KEY.
3 REMOVE HAND WHEEL.
4 INSTALL KEY.
5 INSTALL HAND WHEEL.

QT 034 1 TURN VALVE OFF AND ON.
2 REMOVE CAP AND INSTALL.
3 REMOVE DISC NUT AND INSTALL.
4 REMOVE DISC PIN AND INSTALL.
5 REMOVE GASKET AND INSTALL.
6 REMOVE SWINGING DISC AND INSTALL.
7 CLEAN VALVE CHAMBER VALUE DISC AND VALVE SEAT.

QT 035 1 ADJUST VALVE FOR LINE PRESSURE.
2 LOOSEN LOCK NUT ON REGULATING SCREW.
3 ADJUST REGULATING SCREW.
4 TURN PRESSURE ON AND OFF.
5 TIGHTEN COUPLINGS.
6 TIGHTEN LOCK NUT.
7 FINAL CHECK.

QT 036 1 TURN VALVE OFF AND ON.
2 UNSCREW STUFFING BOX NUT.
3 REMOVE PACKING GLAND.
4 REMOVE OLD PACKING.
5 CLEAN BOX.
6 MEASURE AND CUT NEW PACKING.
7 INSTALL NEW PACKING.
8 INSTALL PACKING GLAND.
9 INSTALL STUFFING BOX NUT.
10 FINAL CHECK.
11 MATERIAL HANDLING.

- QT 037 1 TURN VALVE OFF AND ON.
2 REMOVE PACKING NUT.
3 REMOVE HANDWHEEL SCREW.
4 REMOVE HANDWHEEL.
5 REMOVE PACKING GLAND.
6 MEASURE AND CUT NEW PACKING.
7 REMOVE OLD PACKING.
8 INSTALL NEW PACKING.
9 INSTALL PACKING GLAND.
10 INSTALL HANDWHEEL.
11 INSTALL HANDWHEEL SCREW.
12 INSTALL PACKING NUT.
13 TEST ACTION OF VALVE.
14 MATERIAL HANDLING.
- QT 038 1 REMOVE (2) BOLTS AND INSTALL.
2 REMOVE VALVE AND INSTALL.
3 REMOVE PIN AND INSTALL.
4 CLEAN PIN.
5 CLEAN PIN FACING.
6 REMOVE GASKET NUT AND INSTALL.
7 REMOVE GASKET AND INSTALL.
8 CLEAN GASKET SEAT.
9 MEASURE FLANGE ID AND OD FOR GASKET SIZE
10 GET AND RETURN GASKET CUTTING TOOL KIT AND GASKET MATERIAL
11 GET CUTTER FROM CASE AND PUT AWAY
12 ADJUST CUTTER TO SIZE FOR OD AND ID
13 SECURE GASKET MATERIAL TO CUTTING BOARD
14 POSITION CUTTER AND CUT OD AND ID
15 MEASURE OD AND ID OF GASKET TO CHECK DIMENSIONS
16 UNROLL AND ROLL UP GASKET MATERIAL
17 GET AND ASIDE RULE TO MEASURE GASKET
18 GET TOOLS FROM BELT AS NEEDED
19 ADJUST WRENCH TO SIZE
20 LOOSEN AND TIGHTEN ADJUSTING NUTS WITH WRENCH
21 ADJUST WITH SCREWDRIVER
22 WATCH ADJUSTMENTS
23 ASIDE TOOLS TO TOOL BELT AFTER USE
- QT 039 1 TURN STEAM OFF (3 VALVES) AND ON.
2 ADJUST BY PASS VALVES.
3 DISCONNECT UNION AT BALANCE LINE.
4 REMOVE BALANCE LINE.
5 DISCONNECT UNIONS AT VALVE ENDS.
6 REMOVE PIPE AT VALVE ENDS.
7 REMOVE VALVE.
8 MOVE MATERIAL.

QT 040 1 TURN VALVES ON AND OFF.
2 REMOVE CAP.
3 LOOSEN LOCK NUT.
4 LOOSEN REGULATING SCREW.
5 REMOVE SPRING CASE.
6 REMOVE SPRING.
7 REMOVE BALL VALVE.
8 CLEAN VALVE SEAT.
9 CLEAN VALVE BALL ASSEMBLY.
10 INSTALL BALL VALVE.
11 INSTALL SPRING.
12 INSTALL SPRING CASE.
13 ADJUST VALVES FOR LINE PRESSURE.
14 GET TOOLS FROM TOOL BELT
15 ADJUST WRENCH TO SIZE
16 LOOSEN AND TIGHTEN NUTS WITH WRENCH TO ADJUST
17 ADJUST WITH SCREWDRIVER
18 INSPECT ADJUSTMENTS AS MADE
19 ASIDE TOOLS TO TOOL BELT
20 TIGHTEN COUPLINGS.
21 TIGHTEN LOCK NUT.
22 FINAL CHECK.
23 INSTALL CAP.

QT 041 1 REMOVE HANDWHEEL NUT AND INSTALL.
2 REMOVE HANDWHEEL AND INSTALL.
3 REMOVE PACKING GLAND NUTS.
4 REMOVE PACKING GLAND AND INSTALL.
5 REMOVE OLD PACKING.
6 MEASURE AND CUT NEW PACKING.
7 PACK VALVE.
8 REMOVE GLAND NUTS AND INSTALL (THE ABOVE ALLOWED T
O TIGHTEN AND SEAT PACKING BEFORE PLACING LAST SEC
9 INSTALL PACKING GLAND NUTS.
10 FINAL CHECK.
11 MATERIAL HANDLING.

QT 042 1 TURN VALVES OFF AND ON.
2 REMOVE PACKING NUT.
3 REMOVE HANDWHEEL SCREW.
4 REMOVE HANDWHEEL.
5 REMOVE PACKING GLAND.
6 MEASURE AND CUT NEW PACKING.
7 PICK OUT OLD PACKING.
8 INSTALL NEW PACKING.
9 INSTALL PACKING GLAND.
10 INSTALL HANDWHEEL.
11 INSTALL HANDWHEEL SCREW.
12 INSTALL PACKING NUT.
13 TEST ACTION OF VALVE.
14 MATERIAL HANDLING.

QT 043 1 TURN VALVE OFF AND ON.
2 ADJUST BY-PASS VALVE.
3 DISCONNECT AND CONNECT UNION AT BALANCE LINE.
4 REMOVE AND INSTALL (10) NUTS ON DIAPHRAGM CASE.
5 REMOVE (10) BOLTS.
6 REMOVE DIAPHRAGM CASE.
7 REMOVE AND INSTALL DIAPHRAGM NUT.
8 REMOVE DIAPHRAGM WASHER.
9 REMOVE DIAPHRAGM.
10 INSTALL NEW DIAPHRAGM & WASHER.
11 INSTALL DIAPHRAGM CASE.
12 REMOVE NUT.
13 REMOVE PACKING GLAND.
14 MEASURE AND CUT NEW PACKING.
15 PICK OUT PACKING.
16 INSTALL NEW PACKING.
17 INSTALL PACKING GLAND.
18 INSTALL NUT.
19 ADJUST RANGE SPRING TO REQUIRED LOAD.
20 TEST OPERATION OF VALVE.

QT 044 1 TURN VALVES OFF AND ON.
2 ADJUST BY-PASS VALVE.
3 DISCONNECT UNION.
4 CONNECT UNION AT BALANCE LINE.
5 REMOVE AND INSTALL BALANCE LINE PIPE FROM VALVE.
6 DISCONNECT UNIONS AT VALVE ENDS.
7 CONNECT (2) UNIONS AT VALVE ENDS.
8 REMOVE PIPE AT VALVE ENDS.
9 INSTALL PIPE AT VALVE ENDS.
10 REMOVE VALVE.
11 INSTALL VALVE.
12 ADJUST RANGE SPRING TO REQUIRED LOAD.
13 MOVE MATERIAL.

QT 045 1 TURN STEAM ON AND OFF.
2 ADJUST BY-PASS VALVE.
3 CONNECT UNION AT BALANCE LINE.
4 INSTALL BALANCE LINE TO VALVE.
5 INSTALL FLANGED VALVE.
6 CLEAN PIPE AND VALVE FLANGES.
7 APPLY GRAPHITE TO FLANGES.
8 INSTALL FLANGE GASKET.
9 ADJUST RANGE SPRING TO REQUIRED LOAD.
10 MOVE MATERIAL.
11 TEST OPERATION OF VALVE.

QT 046 1 TURN VALVES OFF.
2 UNSCREW STEM ASSEMBLY TO PROVIDE CLEARANCE.
3 REMOVE STEM ASSEMBLY.
4 CUT PIPE.
5 DISCONNECT (2) UNIONS.
6 REMOVE (1) SECTION PIPE.
7 REMOVE VALVE.
8 SCREW STEM ASSEMBLY TO BODY.
9 MOVE MATERIAL.

QT 047 1 MOVE MATERIAL (ARMLoad).
2 INSTALL VALVES.
3 CONNECT (2) UNIONS.
4 UNROLL TUBE AND ASSEMBLE IN WALL.
5 CHECK AND INSPECT.
6 TURN (2) VALVES ON.

QT 048 1 TURN VALVE OFF AND ON.
2 REMOVE NUT FROM BULB.
3 REMOVE BULB ASSEMBLY FROM WALL.
4 DISCONNECT UNIONS.
5 REMOVE VALVE.
6 INSTALL VALVE.
7 UNROLL CAPILLARY TUBE AND ASSEMBLE BULB IN WELL.
8 CONNECT UNIONS.
9 CONNECT AND INSPECT.
10 MOVE MATERIAL AND TOOLS.

QT 049 1 TURN VALVE OFF AND ON.
2 DISCONNECT AND CONNECT UNIONS AND NIPPLES.
3 REMOVE (1) SECTION PIPE.
4 UNSCREW STEM ASSEMBLY FROM OLD VALVE.
5 REMOVE STEM ASSEMBLY.
6 REMOVE VALVE.
7 SCREW STEM ASSEMBLY TO OLD VALVE.
8 UNSCREW STEM ASSEMBLY FROM NEW VALVE.
9 REMOVE STEM ASSEMBLY.
10 INSTALL NEW VALVE.
11 INSTALL STEM ASSEMBLY TO NEW VALVE.
12 SCREW BONNET INTO VALVE.
13 INSTALL (1) SECTION PIPE.
14 MOVE MATERIAL.

QT 050 1 TURN VALVES OFF.
2 DISCONNECT UNION OF BALANCE LINE.
3 REMOVE BALANCE LINE PIPE FROM VALVE.
4 REMOVE FLANGE FITTING NUTS.
5 REMOVE GASKETS.
6 MOVE MATERIAL.

QT 051 1 TURN (2) VALVES OFF.
2 REMOVE (3) MANHOLE COVERS AND INSTALL (2 MEN REQUIRED).
3 DISCONNECT AND REMOVE FLANGED FITTING.
4 REMOVE FLANGE GASKETS.
5 MOVE MATERIAL.
6 UP OR DOWN FIXED LADDER IN MANHOLE (PER 5 FEET).
7 EXTRA WALKING.

QT 052 1 TURN VALVES OFF AND ON.
2 CUT PIPE IN TWO.
3 MEASURE FOR INSTALLATION OF VALVE.
4 REMOVE PIPE FROM LINE.
5 CUT, REAM AND THREAD PIPE.
6 REMOVE AND INSTALL PIPE TO LINE.
7 INSTALL (2) NIPPLES & (2) UNIONS.
8 INSTALL VALVE.
9 MOVE MATERIAL.

QT 053 1 TURN VALVES OFF AND ON.
2 REMOVE PIPE SECTION.
3 REMOVE 1 - FLANGED END.
4 CUT AND THREAD PIPE END.
5 INSTALL FLANGED END.
6 MAKE 3 GASKETS.
7 PUT GRAPHITE ON GASKETS.
8 INSTALL GASKETS.
9 INSTALL PIPE SECTION AND VALVE.
10 MATERIAL HANDLING.

QT 054 1 TURN VALVES OFF AND ON.
2 HAND BURN 20 NUTS AND BOLTS.
3 REMOVE BURNED BOLTS.
4 FREE STEM DISCS AND SPREADERS.
5 REMOVE AND INSTALL VALVE HEAD.
6 OVERHAUL, CLEAN AND LUBRICATE WORKING PARTS.
7 MAKE TWO GASKETS.
8 APPLY GRAPHITE TO FLANGES AND GASKETS.
9 INSTALL GASKETS.
10 INSTALL 20 BOLTS.
11 INSTALL 20 NUTS.
12 REPACK VALVE.

QT 055 1 TURN VALVES ON OR OFF.
2 REMOVE VALVE FROM LINE.
3 REMOVE GASKETS.
4 CLEAN PIPE AND VALVE FLANGES.
5 MAKE TWO GASKETS.
6 APPLY GRAPHITE TO GASKETS AND FLANGES.
7 INSTALL VALVE TO LINE.
8 INSTALL GASKETS.
9 ADJUST SETTING OF VALVE.
10 MOVE MATERIAL.
11 REMOVE (3) MANHOLE COVERS AND INSTALL (2 MEN REQUIRED).
12 CLIMB UP OR DOWN LADDER IN MANHOLES.
13 EXTRA WALKING.

- QT 056 1 UNSCREW 2 1/2" CAP.
2 REMOVE GASKET.
3 MAKE GASKET.
4 INSTALL GASKET.
5 INSTALL 2 1/2" CAP.
- QT 057 1 FLUSH HYDRANT, INCLUDES LUB.
- QT 058 1 DISCONNECT FLANGED JOINT GAP.
2 REMOVE OLD GASKET.
3 FABRICATE NEW GASKET.
4 INSTALL GASKET.
5 INSTALL CAP.
- QT 059 1 REMOVE LOCK OR SHIELD NUT.
2 REMOVE AND INSTALL FLANGED COVER ASSEMBLY.
3 CLEAN AROUND STEM NUT.
4 MOVE MATERIAL (ARMLoad).
5 INSTALL LOCK OR SHIELD NUT.
- QT 060 1 REMOVE VALVE CAP 4 1/2" OR 2 1/2"
2 REMOVE STEM NUT.
3 REMOVE GLAND BOLTS.
4 REMOVE GLAND.
5 REMOVE OLD PACKING RINGS.
6 CLEAN GLAND AREA.
7 MEASURE AND CUT PACKING.
8 PACK GLAND WITH NEW RINGS.
9 INSTALL GLAND.
10 INSTALL GLAND BOLTS.
11 INSTALL STEM NUT.
12 INSTALL VALVE CAP.
- QT 061 1 SHUT WATER SUPPLY OFF AND ON.
2 REMOVE LOCK NUT.
3 REMOVE COVER ASSEMBLY.
4 REMOVE VALVE AND STEM ASSEMBLY FROM BARREL.
5 MOVE MATERIAL (CWT.).
6 INSTALL NEW VALVE AND STEM ASSEMBLY FROM BARREL.
7 INSTALL COVER ASSEMBLY.
8 INSTALL LOCK NUT.
9 CHECK VALVE OPERATION.
- QT 062 1 SHUT WATER SUPPLY OFF AND ON.
2 DISCONNECT FLANGE BOLTS.
3 REMOVE COVER.
4 REMOVE VALVE AND STEM ASSEMBLY FROM BARREL CYLINDER.
5 MOVE MATERIAL (CWT.).
6 INSTALL NEW VALVE AND STEM ASSEMBLY IN BARREL CYLINDER.
7 INSTALL COVER.
8 INSTALL BOLTS.
9 CHECK VALVE OPERATIONS.

- QT 063 1 SHUT WATER SUPPLY OFF AND ON.
2 REMOVE AND INSTALL COVER OR CAP ASSEMBLY, AND SERVICE HYDRANT (INCLUDES INSPECT, CLEAN LUBRICATE AND
3 REMOVE VALVE AND STEM ASSEMBLY FROM BARREL CYLINDER.
4 DISCONNECT AND REMOVE BROKEN UPPER BARREL.
5 INSTALL NEW LOWER BARREL.
6 INSTALL NEW UPPER BARREL.
7 INSTALL VALVE & STEM ASSEMBLY.
8 USE WINCH TRUCK AND RETURN.
- QT 064 1 REMOVE AND INSTALL VALVE STEM ASSEMBLY.
2 REMOVE BARREL FLANGE NUTS.
3 REMOVE BOLTS.
4 REMOVE BARREL.
5 REMOVE GASKET.
6 FABRICATE GASKET.
7 INSTALL NEW GASKET.
8 INSTALL BOLTS.
9 INSTALL BARREL.
10 INSTALL NUTS.
- QT 065 1 SHUT WATER SUPPLY OFF AND ON.
2 PERFORM ROUTINE MAINTENANCE (INCLUDES CLEAN, INSPECT, LUBRICATE AND FLUSH).
3 REMOVE VALVE AND STEM ASSEMBLY, AND INSTALL.
4 MOVE MATERIAL (CWT).
5 REMOVE AND INSTALL TWO NUTS.
6 REMOVE AND INSTALL 2 WASHERS.
7 CLEAN WASHERS AND PARTS.
8 MAKE TWO GASKETS.
9 REMOVE AND INSTALL 2 GASKETS.
10 REMOVE AND INSTALL SEAT RING.
11 CHECK STEM, SEAT RING & VALVE.
12 APPLY GRAPHITE TO GASKETS AND PARTS.
13 CHECK VALVE OPERATION.
14 USE WINCH OR CRANE
- QT 066 1 SHUT WATER SUPPLY OFF AND ON.
2 REMOVE AND INSTALL COVER OR CAP ASSEMBLY, AND SERVICE HYDRANT (INCLUDES INSPECT, CLEAN LUBRICATE AND
3 REMOVE VALVE AND STEM ASSEMBLY FROM BARREL CYLINDER.
4 DISCONNECT AND REMOVE BROKEN UPPER BARREL WITH SLING.
5 FABRICATE 2 GASKETS.
6 DISCONNECT AND REMOVE BROKEN LOWER BARREL WITH SLING.
7 INSTALL GASKETS.
8 INSTALL NEW LOWER BARREL.
9 INSTALL NEW UPPER BARREL.
10 INSTALL VALVE & STEM ASSEMBLY.
11 USE WINCH TRUCK AND RETURN.

- QT 067 1 SHUT OFF WATER SUPPLY OFF AND ON.
2 PERFORM ROUTINE MAINTENANCE (INCLUDES CLEAN, INSPECT, LUBRICATE AND FLUSH).
3 REMOVE VALVE AND STEM ASSEMBLY AND INSTALL.
4 MOVE MATERIAL (CWT).
5 REMOVE AND INSTALL THE NUTS.
6 REMOVE AND INSTALL SEAT RING.
7 CLEAN WASHERS AND PARTS.
8 MAKE 2 GASKETS.
9 CHECK STEM, GLAND & VALVE.
10 REMOVE AND INSTALL.
11 CHECK VALVE OPERATION.
12 USE WINCH OR CRANE.
- QT 068 1 INSPECT WATER PRESSURE GAUGES.
2 TEST FIRE ALARM ON WET OR DRY SPRINKLER SYSTEMS.
3 MOTOR, EXPOSED, INSPECT.
4 INSPECT, VISUAL, MEDIUM PART. NOTE: AVERAGE OF 30 SPRINKLER HEADS PER SYSTEM.
- QT 069 1 MAINTENANCE OF POST INDICATOR VALVE OR DRY PIPE VALVE (INCLUDES CLEAN, INSPECT AND LUBRICATE).
2 MAINTENANCE OF SPRINKLER ALARMS AND FIRE ALARM BELLS.
3 BLEED WATER FROM DRY SYSTEM PIPES.
4 PUMP AIR INTO DRY SPRINKLER SYSTEM.
5 INSPECT PRESSURE OF AIR GAUGE.
6 CHECK VALVE OR NOZZLE OPERATION.
7 TEST FIRE ALARMS AND SPRINKLER ALARMS ON DRY SYSTEM.
- QT 070 1 OPEN HIGH POINT VALVE AND CLOSE POST INDICATOR VALVE.
2 PERFORM MAINTENANCE ON POST INDICATOR VALVE.
3 OPEN DRAIN VALVE AND CLOSE ALARM VALVE.
4 REMOVE NUTS FROM ALARM VALVE COVER PLATE.
5 REMOVE FACE PLATE FROM ALARM VALVE.
6 REMOVE OLD GASKET.
7 CLEAN VALVE FLANGE & COVER FLANGE.
8 MAKE NEW FLANGE GASKET.
9 PERFORM MAINTENANCE ON SPRINKLER SYSTEM ALARM.
10 INSTALL FLANGE GASKET.
11 INSTALL FACE PLATE ON VALVE.
12 INSTALL NUTS ON COVER PLATE.
13 REMOVE EQUALIZING CHECK VALVE COVER.
14 REMOVE OLD GASKET.
15 CLEAN FLANGE SURFACES.
16 REMOVE BALL CHECK.
17 CLEAN VALVE INTERIOR.
18 FLUSH VALVE.
19 INSTALL BALL CHECK.
20 INSTALL NEW GASKET.
21 INSTALL CHECK VALVE COVER.
22 REMOVE NUTS ON DAMPER VALVE COVER.
23 REMOVE GASKET.
24 CLEAN PLUG, CHAMBER, & STRAINER.
25 CLEAN SCREENS ON EQUALIZER AND CLEAN.
26 FLUSH ORIFICE.
27 REASSEMBLE AND INSTALL EQUALIZING DEVICE.
28 INSTALL STRAINER.
29 INSTALL NEW GASKET.
30 INSTALL COVER PLATE.
31 REMOVE DRAIN LINE TO BELL TYPE AIR VENT.
32 REMOVE VALVE.
33 CLEAN VALVE.

34 INSTALL VALVE AND DRAIN LINE.
35 DISCONNECT UNIONS TO REMOVE RETARDING CHAMBER.
36 REMOVE BOLTS FROM CHAMBER SUPPORT BRACKET.
37 REMOVE CHAMBER COVER.
38 REMOVE GASKET.
39 REMOVE DIAPHRAGM.
40 CLEAN COVER CHAMBER & DIAPHRAGM.
41 INSTALL DIAPHRAGM.
42 INSTALL NEW GASKET.
43 INSTALL CHAMBER COVER.
44 RECONNECT UNIONS TO INSTALL RETARDING CHAMBER
45 REMOVE DAMPER VALVE COVER.
46 REMOVE OLD GASKET.
47 CLEAN FLANGE SURFACES.
48 REMOVE DAMPER DEVICE.
49 DISASSEMBLE DAMPER DEVICE.
50 CLEAN VALVE INTERIOR.
51 FLUSH VALVE.
52 INSTALL DAMPER DEVICE.
53 INSTALL NEW GASKET.
54 INSTALL DAMPER VALVE COVER.
55 INSTALL NUTS ON COVER PLATE.
56 REMOVE INLET CHAMBER STRAINER PLUG.
57 REMOVE STRAINER.
58 REMOVE GASKET.
59 CLEAN PLUB, STRAINER & CHAMBER.
60 FLUSH VALVE.
61 INSTALL STRAINER.
62 INSTALL NEW GASKET.
63 INSTALL STRAINER PLUG.
64 UNSCREW AND REMOVE EQUALIZING COVER.
65 REMOVE STRAINER.
66 REMOVE AND DISASSEMBLE EQUALIZING DEVICE.
67 INSTALL BOLTS IN SUPPORT BRACKET.
68 PERFORM MAINTENANCE ON FIRE ALARM.
69 CHECK BELL FOR OPERATION.
70 REMOVE AND INSTALL NUTS ON FRONT AND BACK COVER OF
WATER ALARM MOTOR.
71 CLEAN WATER ALARM MECHANISM.
72 OPEN POST INDICATOR VALVE & CLOSE HIGH POINT VALVE
.
73 TEST FIRE ALARM.
74 INSPECT WATER PRESSURE GAUGES.

- QT 071 1 MAINTENANCE OF HYDRANTS OR STANDPIPES (INCLUDES IN
SPECT, CLEAN AND LUBRICATES).
2 OPEN AND CLOSE VALVES.
3 FLUSH SPRINKLER SYSTEM HYDRANTS UNTIL CLEAN.
4 EXTRA WALK BETWEEN WATER SUPPLY VALVE AND HYDRANT.
5 PUMP WATER INTO SPRINKLER SYSTEM OR (SYSTEM TANKS)
.
6 CHECK PRESSURE OF WATER GAUGE.
- QT 072 1 REMOVE SCREWS AND INSTALL.
2 TAKE OUT PIN AND INSTALL.
3 REMOVE CLAPPER AND INSTALL.
4 CLEAN CLAPPER.
- QT 073 1 TURN VALVES OFF AND ON.
2 REMOVE OLD VALVE AND INSTALL NEW.
3 INSPECT NEW VALVE.
- QT 074 1 REMOVE LOCK NUT OR SCREW AND INSTALL.
2 REMOVE HAND WHEEL
3 INSTALL HAND WHEEL.
4 CHECK WORK.
- QT 075 1 TURN VALVES OFF AND ON.
2 REMOVE CAP AND INSTALL.
3 REMOVE OLD GASKET.
4 UNSCREW BELLOWS NUT AND INSTALL.
5 REMOVE BELLOWS.
6 INSTALL BELLOWS.
7 INSTALL GASKET.
- QT 076 1 REMOVE SCREWS.
2 REMOVE COVER.
3 CLEAN COVER.
4 INSTALL COVER.
5 INSTALL SCREWS.
- QT 077 1 TURN (2) VALVES ON OR OFF.
2 DISCONNECT OR CONNECT UNIONS.
3 REMOVE OR INSTALL RADIATOR (CWT).
- QT 078 1 TURN VALVE ON AND OFF.
2 DISCONNECT UNION AND TRAP.
3 REMOVE TRAP SPUD FROM RADIATOR.
4 REMOVE NIPPLE.
5 REMOVE AND INSTALL SPUD AND NIPPLE ON RADIATOR.
6 INSTALL TRAP ON RADIATOR AND CONNECT UNION.
7 INSPECT.

QT 079 1 TURN VALVES OFF AND ON.
2 DISCONNECT UNIONS.
3 DISCONNECT SUPPORTS.
4 DISCONNECT CONDENSATE LINE.
5 FORK LIFT TO HEATER AND RETURN (200 FT).
6 RAISE FORK LIFT TO POSITION AND LOWER.
7 REMOVE HEATER OR INSTALL.
8 MOVE MATERIAL.

QT 080 1 INSTALL INLET NIPPLES INTO RADIATOR.
2 INSTALL RADIATOR VALVE TAIL PIECE.
3 INSTALL OUTLET ELBOW ON RADIATOR.
4 INSTALL NIPPLES ON ELBOWS.
5 INSTALL VALVE, STRAINER & TRAP.
6 INSTALL RADIATOR.
7 CONNECT UNIONS.
8 MOVE MATERIAL.
9 CHECK AND INSPECT WORK.

QT 081 1 FORK LIFT TO POSITION AND RETURN (200 FT).
2 RAISE AND LOWER FORK LIFT TO POSITION HEATER.
3 POSITION HEATING UNIT.
4 CONNECT SUPPLY LINE UNIONS.
5 CONNECT CONDENSATE LINE.
6 TURN VALVES ON.
7 INSPECT ALL CONNECTIONS.
8 MATERIAL HANDLING (CWT).

QT 082 1 REMOVE NUTS.
2 REMOVE BOLTS.
3 REMOVE METAL HOUSING (4 SECTIONS).
4 CHECK MECHANISM FOR REPAIR.
5 CLEAN BEFORE WELD.
6 CHECK MECHANISM AFTER REPAIR.
7 ASSEMBLE METAL HOUSING.
8 ASSEMBLE BOLTS.
9 ASSEMBLE NUTS.
10 MATERIAL HANDLING.

QT 083 1 CHECK OPERATION OF TANK.
2 REMOVE THERMOSTAT, CHECK AND INSTALL.
3 REMOVE MAIN BURNER, CLEAN AND INSTALL.
4 REMOVE PILOT AND THERMOCOUPLE, CLEAN, AND INSTALL.
5 CHECK TANK.

QT 084 1 CHECK OPERATION OF OLD TANK.
2 REMOVE OLD HEATER, INSTALL NEW HEATER.
3 MATERIAL HANDLING.
4 CHECK AFTER INSTALLATION.

- QT 085 1 TURN VALVES OFF AND ON.
2 DISCONNECT VALVE UNIONS.
3 REMOVE RADIATOR.
4 REMOVE RADIATOR VALVE TAIL PIECE.
5 REMOVE NIPPLES FROM RADIATOR.
6 INSTALL NIPPLES FROM RADIATOR.
7 INSTALL RADIATOR VALVE TAIL PIECE.
8 INSTALL RADIATOR.
9 CONNECT UNIONS ON OUTLET & VALVE.
10 CHECK AND INSPECT.
11 MOVE MATERIAL.
- QT 086 1 TURN VALVES OFF AND ON.
2 REMOVE THERMOSTAT, CHECK AND INSTALL.
3 REMOVE BURNER, CLEAN AND INSTALL.
4 REMOVE PILOT AND THERMOCOUPLE, CLEAN AND INSTALL.
5 REMOVE BURNER DOOR AND INSTALL.
6 CHECK AFTER MAINTENANCE.
7 DRAIN AND FILL TANK (TWICE TO FLUSH).
- QT 087 1 CHECK OPERATION OF TANK.
2 REMOVE HOT WATER HEATER AND INSTALL.
3 REMOVE THERMOSTAT, CHECK AND INSTALL.
4 REMOVE MAIN BURNER, CLEAN AND INSTALL.
5 REMOVE PILOT AND THERMOCOUPLE, CLEAN, AND INSTALL.
6 MATERIAL HANDLING.
7 CHECK OPERATION OF TANK COMPONENTS.
- QT 088 1 REMOVE HOT WATER HEATER AND INSTALL.
2 REMOVE THERMOSTAT, CHECK AND INSTALL.
3 REMOVE BURNER, CLEAN AND INSTALL.
4 REMOVE PILOT AND THERMOCOUPLE, CLEAN AND INSTALL.
5 REMOVE BURNER DOOR AND INSTALL.
6 REMOVE AND REAPPLY ASBESTOS TO BURNER DOOR.
7 DRAIN AND REFILL TANK.
8 TURN VALVE OFF AND ON.
- QT 089 1 TURN VALVES OFF AND ON.
2 CONNECT AND DISCONNECT HOSE.
3 FILL AND DRAIN TANK (TWICE TO FLUSH).
4 OPEN AND CLOSE DRAIN COCK.
5 CLEAN AND ADJUST RELIEF VALVE TO PROPER SETTING.
6 MOVE MATERIAL.
- QT 090 1 REMOVE SCREWS FROM RADIATOR COVER, AND INSTALL.
2 REMOVE COVER AND INSTALL.
3 TURN VALVES OFF AND ON.
4 DISCONNECT UNIONS TO TUBE.
5 REMOVE VALVE.
6 REMOVE COUPLINGS.
7 REMOVE OLD STEAM TRAP & INSTALL.
8 INSTALL VALVE.
9 MOVE RADIATOR.
10 INSTALL COUPLINGS.
11 INSTALL TAIL PIECE.
12 CONNECT UNIONS.
13 MOVE MATERIAL.
14 CHECK AND INSPECT.

- QT 091 1 REMOVE NUT FROM DRAW BOLTS.
2 REMOVE DRAW BOLTS.
3 REMOVE OLD PUSH NIPPLES.
4 CLEAN TAPERED JOINTS.
5 LUBRICATE JOINTS.
6 ASSEMBLE NIPPLES TO SECTIONS.
7 ASSEMBLE SECTIONS.
8 SECURE ASSEMBLY - TWO MEN.
9 INSTALL DRAW BOLTS.
10 INSTALL NUTS.
11 CHECK AND INSPECT.
- QT 092 1 TURN VALVES OFF AND ON.
2 REMOVE AND INSTALL RELIEF VALVE.
3 DISCONNECT UNIONS.
4 CONNECT UNIONS.
5 REMOVE AND INSTALL HEADER BOLTS.
6 REMOVE HEADER.
7 REMOVE AND INSTALL MANHOLE BOLTS.
8 REMOVE AND INSTALL MANHOLE COVER.
9 CLIMB IN AND OUT OF TANK.
10 REMOVE AND INSTALL COIL NUTS.
11 REMOVE AND INSTALL COIL.
12 CONNECT AND DISCONNECT HOSE.
13 MAKE FOUR GASKETS.
14 APPLY GRAPHITE TO FLANGES AND GASKETS.
15 INSTALL GASKETS.
16 ADJUST HEATING RANGE.
17 CHECK AFTER CLEANING.
18 EXTRA WALKING - 500 PACES.
- QT 093 1 TURN VALVES OFF AND ON.
2 CONNECT DRAIN HOSE.
3 DISCONNECT DRAIN HOSE.
4 DRAIN OLD TANK, FILL NEW TANK.
5 DISCONNECT UNIONS.
6 CONNECT UNIONS.
7 REMOVE RELIEF VALVE.
8 REMOVE OLD HEATER AND POSITION NEW.
9 INSTALL RELIEF VALVE.
10 INSTALL 4 ADAPTERS TO SUIT NEW HEATER.
11 INSTALL DRAIN COCK ON HEATER.
12 MATERIAL HANDLING.
13 INSULATE SUPPLY PIPING FITTINGS AT NEW HEATER.
14 UNCRATE WATER HEATER - 12 PIECES LUMBER, 8 NAILS PER PIECE.
- QT 094 1 OPEN AND CLOSE VALVES.
2 REMOVE NUTS ON COIL.
3 REMOVE COIL BOLTS.
4 REMOVE COIL.
5 REMOVE GASKETS.
6 DISCONNECT UNIONS.
7 FILL AND DRAIN TANK.
8 CLEAN COIL FACES.
9 CLEAN COIL.
10 CLEAN INSIDE OF TANK - SCRAPE TWICE.
11 CONNECT HOSE.
12 DISCONNECT HOSE.
13 USE HOSE TO FLUSH OUT TANK - 25 GALLONS.
14 MAKE TWO GASKETS.
15 INSTALL GASKET.
16 INSTALL COIL.
17 INSTALL BOLTS IN COIL.
18 CONNECT UNIONS.

- 19 INSTALL NUTS ON BOLTS.
- 20 CHECK WORK AFTER COMPLETION.
- 21 ASSEMBLE AND DISASSEMBLE 2 PIPE SECTIONS.
- 22 MOVE MATERIAL.

QT 095 1 REMOVE NUTS FROM DRAW BOLTS.
2 REMOVE DRAW BOLTS.
3 REMOVE OLD PUSH NIPPLES.
4 CLEAN TAPERED JOINTS.
5 LUBRICATE JOINTS.
6 ASSEMBLE NIPPLES TO SECTIONS.
7 ASSEMBLE SECTIONS.
8 SECURE ASSEMBLY - TWO MEN.
9 INSTALL 2 DRAW BOLTS.
10 INSTALL 4 NUTS.
11 CHECK AND INSPECT.

QT 096 1 TURN VALVES OFF AND ON.
2 DISCONNECT UNIONS.
3 RECONNECT UNIONS.
4 REMOVE AND INSTALL HEADER BOLTS.
5 REMOVE AND INSTALL HEADER.
6 SCRAPE SCALE FROM HEADER.
7 REMOVE AND INSTALL COIL BOLTS.
8 REMOVE AND INSTALL COIL.
9 REMOVE AND INSTALL MANHOLE BOLTS.
10 REMOVE AND INSTALL MANHOLE COVER.
11 CLIMB IN AND OUT OF TANK.
12 SCRAPE INSIDE OF TANK TWICE (EXTRA DIRTY) - 234 SQ
.FT.
13 CONNECT HOSE.
14 DISCONNECT HOSE.
15 WASH DOWN INSIDE OF TANK - 50 GALLONS.
16 MAKE 2 GASKETS.
17 CLEAN FLANGES.
18 APPLY GRAPHITE TO FLANGES AND GASKETS.
19 INSTALL GASKETS.
20 CHECK OUT WORK.
21 MATERIAL HANDLING.

QT 097 1 INSTALL SINGLE THICK LAGGING.
2 MATERIAL HANDLING.

QT 098 1 INSTALL INSULATION.
2 MATERIAL HANDLING.

QT 099 1 INSTALL INSULATION.
2 MATERIAL HANDLING.

QT 100 1 INSTALL INSULATION.
2 COVER WITH JACKET.
3 MATERIAL HANDLING.

QT 101 1 INSTALL INSULATION.
2 COVER WITH JACKET.
3 MATERIAL HANDLING.

QT	102	1 INSTALL INSULATION. 2 MATERIAL HANDLING.
QT	103	1 INSTALL INSULATION. 2 COVER WITH JACKET. 3 MATERIAL HANDLING.
QT	104	1 INSTALL INSULATION. 2 COVER WITH JACKET. 3 MATERIAL HANDLING.
QT	105	1 INSTALL INSULATION. 2 MATERIAL HANDLING.
QT	106	1 INSTALL INSULATION. 2 MATERIAL HANDLING.
QT	107	1 INSTALL INSULATION. 2 MATERIAL HANDLING.
QT	108	1 INSTALL L-SECTION INSULATION. 2 MATERIAL HANDLING.
QT	109	1 INSTALL INSULATION. 2 MATERIAL HANDLING.
QT	110	1 INSTALL ONE SECTION INSULATION. 2 MATERIAL HANDLING.
QT	111	1 INSTALL INSULATION (PER SECTION). 2 MATERIAL HANDLING.
QT	112	1 INSTALL INSULATION. 2 MATERIAL HANDLING.
QT	113	1 INSTALL INSULATION. 2 INSTALL ALUMINUM JACKET. 3 MATERIAL HANDLING.
QT	114	1 INSTALL INSULATION. 2 INSTALL STEEL JACKET. 3 MATERIAL HANDLING.
QT	115	1 INSTALL INSULATION. 2 MATERIAL HANDLING.
QT	116	1 INSTALL INSULATION. 2 INSTALL ALUMINUM JACKET. 3 MATERIAL HANDLING.

QT	117	1 INSTALL INSULATION.	
		2 INSTALL STEEL JACKET.	
		3 MATERIAL HANDLING.	
QT	118	1 INSTALL INSULATION.	
		2 MATERIAL HANDLING.	
QT	119	1 INSTALL INSULATION.	
		2 MATERIAL HANDLING.	
QT	121	1 REMOVE INSULATION.	
		2 MATERIAL HANDLING.	
QT	122	1 MOVE TOOLS & MATERIALS.	2 MENREQ.
		2 COVER AREA WITH POLYETHELENE TARP.	2 MENREQ.
		3 FILL SPRAY CAN.	1 MANREQ.
		4 PUMP AND LOCK SPRAY CONTAINER.	1 MANREQ. P
		ER 24 LIN FT OF INSULATION REMOVED.	
		5 PICK UP SPRAY CONTAINER AND ASIDE.	1 MANREQ. T
		WICE PER 3 LIN FT OF INSULATION REMOVED.	
		6 SPRAY ASBESTOS INSULATION WITH WATER BEFORE,DURING	
		AND AFTER REMOVAL 2 MENREQ. EQUIVALENT TO 150 F	
		7 CUT ASBESTOS INSULATION FROM PIPE.	2 MENREQ. S
		ECOND MAN BAGS WASTE, HANDLES TOOLS & ASSISTS PER	
		8 VACUUM EXPOSED PIPE.	2 MENREQ. S
		ECOND MAN HANDLES ANCILLARY ACTIONS	
		9 TAPE EXPOSED ENDS OF REMAINING INSULATION ON PIPE	
		PER 12 LIN FT OF INSULATION REMOVED.	2 MENREQ.
		10 REMOVE POLYETHELENE TARP.	2 MENREQ.
QT	123	1 REMOVE LAGGING.	
		2 MATERIAL HANDLING.	
QT	124	1 REMOVE WIRE TIES.	
		2 REMOVE SECTION PAPER.	
		3 MATERIAL HANDLING.	
QT	125	1 REMOVE 4FT SECTION.	
		2 MATERIAL HANDLING.	
QT	126	1 REMOVE INSULATION.	
		2 MATERIAL HANDLING.	
QT	127	1 MEASURE FOR HOSE LENGTH.	
		2 CUT HOSE TO LENGTH.	
		3 INSTALL HOSE FERRULES.	
		4 INSTALL HOSE ADAPTERS.	
		5 INSTALL NOZZLE.	
		6 INSTALL TO EXISTING AIR INLET.	
		7 TURN AIR ON AND OFF.	

QT 128 1 TURN WATER OFF.
2 UNSCREW SLIP JOINT LOCK NUTS ON TRAP.
3 UNSCREW UNION ON WATER LINE.
4 MOVE WATER COOLER.
5 REMOVE TRAP.
6 REMOVE FOOD LINE TO WALL.
7 INSTALL CAP & PLUG ON OPEN LINES.

QT 129 1 TURN WATER OFF AND ON.
2 UNSCREW PLUG FROM WATER SUPPLY.
3 UNSCREW CAP FROM DRAIN.
4 MOVE COOLER INTO POSITION.
5 SCREW SLIP JOINT LOCK NUT ONTO TRAP.
6 POSITION TRAP TO DRAIN.
7 TIGHTEN LOCK NUT.
8 INSTALL NIPPLE ON VALVE.
9 INSTALL UNION ON NIPPLE.
10 CONNECT UNION.
11 INSPECT CONNECTIONS.
12 TEST FOUNTAIN.

QT 130 1 PROVIDE LINES AND CONNECT ONLY FOR SHIP TO SHORE H
OOK-UP; RETURN AND PICK UP HOSE.

QT 131 1 CHANGE NIPPLE ON STEAM LINE.
2 CONNECT UNION TO LINE.
3 ATTACH NIPPLE TO TRAP (2 PLACES).
4 ATTACH TRAP TO LINE (2 MEN).
5 TURN STEAM LINE BLOCK VALVE OFF AND ON.
6 TURN OFF BY-PASS VALVE AND OPEN TRAP VENT VALVE.
7 TURN WATER LINE ON AND OFF.
8 ADJUST VENT VALVE.
9 WAIT FOR WATER FILL, STEAM BUILDUP, AND EXHAUST TH
ERMOSTATIC TRAP.
10 TURN STEAM WASTE LINE OFF AND ON.
11 TURN STEAM SUPPLY LINE OFF AND ON.
12 ADJUST STEAM REGULATOR TO GAGE READING.
13 CHECK TRAP OPERATION AND CHECK FOR LEAKS.
14 REMOVE TRAP FROM LINE - TWO MEN.
15 REMOVE 2 NIPPLES FROM TRAP.
16 REMOVE UNION FROM LINE.
17 INSTALL 2 NIPPLES.
18 MATERIAL HANDLING.

QT 132 1 HOOK UP WATER SUPPLY SHIP TO SHORE AND FILL WATER
TANKS.

QT 133 1 CUT AND THREAD RODS.
2 INSTALL SUPPORTS.
3 MATERIAL AND TOOL HANDLING.

- QT 134 1 REMOVE AND INSTALL MANHOLE COVERS (2 MEN).
2 IN AND OUT OF MANHOLE.
3 CHECK THE CONDITION OF THE LIQUID FLOWING THROUGH
THE MANHOLE (VISUAL INSPECTION OF HEIGHT AND VELOC
4 CONNECT FIRE HOSE.
5 DISCONNECT HOSE.
6 FLUSH SEWER LINE.
7 SET UP GUARDS AT MANHOLES AND REMOVE.
- QT 135 1 SET UP GUARDS AT MANHOLES AND REMOVE.
2 REMOVE AND REINSTALL MANHOLE COVER.
3 OBTAIN AND REPLACE EXTRA TOOLS FROM IMMEDIATE WORK
AREA AND MOVE MACHINERY TO AND FROM OTHER WORK AR
4 UNLOAD TRUCK AND CARRY MATERIAL TO WORK AREA.
5 TIE WOOD BLOCK TO LINE AND UNTIE.
6 UNREEL WIRE ROPE FROM SPOOL AND LAY IN STREET.
7 ATTACH WIRE ROPE TO PULL LINE AND PULL THROUGH SEW
ER HAND OVER HAND.
8 ATTACH "U" BOLT TO CLEANING DEVICE, SECURE TO WIRE
ROPE, DISCONNECT.
9 WIND WIRE ROPE ON SPOOL - 200 FT.
10 PULL WIRE ROPE THROUGH TO REDUCE SLACK.
11 ATTACH WIRE TO MECHANICAL PULLING SYSTEM AND DISCO
NNECT.
12 PUT WIRE SPOOL ACROSS MANHOLE OPENING.
13 PULL DEVICE BACK BY HAND WHEN OPERATION STALLS.
14 CONNECT AND DISCONNECT FIRE HOSE.
15 FLUSH SEWER LINE.
16 START AND STOP PULLING DEVICE, MOUNT AND ALIGHT, P
ULL FOR CLEANING.
17 SET UP WIRE GUIDE DEVICE IN MANHOLE.
18 ATTACH WIRE ROPE TO GUIDING DEVICE AND REMOVE.
19 CLIMB DOWN AND UP MANHOLE LADDER.
20 PRY LOOSE CLEANING DEVICE.
21 CLEANING DEVICE FORWARD AND REVERSE.
22 CARRY DEVICE.
23 TAKE CLEANING DEVICE OUT OF HOLE AND LOWER.
24 OBTAIN, USE AND REPLACE STEEL TAPE.
25 ADDITIONAL WALKING IN AREA.
- QT 136 1 CLEAN PIPE AREA TO BE TAPPED.
2 TAP PIPE UNDER PRESSURE AND INSTALL CORPORATION ST
OP.
3 INSPECT AFTER INSTALLATION OF STOP.
4 MOVE MATERIAL AND TOOLS.
- QT 137 1 CONNECT AND DISCONNECT.
2 FILL AND DRAIN TANK.
3 PUMP PRESSURE.
4 INSPECT TANKS.
5 CLEAN AND ADJUST RELIEF VALVE.
6 FILL OUT AND ATTACH TAG.

- QT 138 1 CONNECT HOSES TO PUMP.
2 SECURE MAIN AIR SUPPLY COUPLING TO RECEIVER.
3 SECURE DISCHARGE VALVE TO RECEIVER.
4 OPEN BY-PASS AND SECURE TRAP VALVE.
5 OPEN AND CLOSE VALVES TO REDUCE RECEIVER PRESSURE.
6 REMOVE MANHOLE COVER.
7 CLEAN MANHOLE COVER EDGE & INNER SURFACE.
8 REMOVE RELIEF VALVE.
9 INSTALL PIPE PLUG.
10 CONNECT AIR TO PUMP.
11 REMOVE EXISTING FIRE HOSE CONNECTION.
12 CONNECT WATER HOSE TO PUMP.
13 HOSE DOWN INTERIOR OF RECEIVER (GALLON).
14 OPEN AND CLOSE DRAIN VALVE.
15 CONNECT HOSE FROM PUMP TO RECEIVER.
16 MAKE NEW GASKET.
17 GASKET ON COVER.
18 INTERNAL INSPECTION OF TANK.
19 CLEAN MANHOLE SEAT.
20 INSTALL MANHOLE COVER.
21 OPEN AIR VENT AND WATER VALVE.
22 CLOSE AIR VENT AND WATER VALVE.
23 SECURE MANHOLE COVER.
24 FILL AND DRAIN TANK.
25 PUMP PRESSURE.
26 INSPECT FOR LEAKS.
27 CLOSE AIR RECEIVER AND AIR SUPPLY VALVES.
28 DISCONNECT AIR HOSE.
29 OPEN VENT AND DRAIN VALVES.
30 DISCONNECT WATER & DRAIN HOSES.
31 OPEN AND CLOSE TRAP VALVE.
32 CLEAN TRAP.
33 CLEAN STRAINER.
34 OPEN TRAP VALVE & CLOSE DRAIN VALVE.
35 CLOSE AND OPEN MAIN AIR SUPPLY VALVE.
36 FILL OUT AND ATTACH TAG.
- QT 139 1 CONNECT AND DISCONNECT
2 FILL AND DRAIN TANK.
3 PUMP PRESSURE.
4 INSPECT TANK.
5 CLEAN AND ADJUST RELIEF VALVE.
6 FILL OUT AND ATTACH TAG.
- QT 140 1 SET UP GUARDS AT MANHOLES AND REMOVE.
2 REMOVE AND INSTALL MANHOLE COVER.
3 OBTAIN AND RETURN EXTRA TOOLS FROM IMMEDIATE WORK
AREAS AND MOVE MACHINERY TO AND FROM OTHER WORK AR
4 UNLOAD TRUCK AND CARRY MATERIAL TO WORK AREA.
5 TIE WOOD BLOCK TO LINE & UNTIE.
6 UNREEL WIRE ROPES FROM SPOOL & LAY IN STREET.
7 ATTACH WIRE ROPE TO PULL LINE & PULL THROUGH SEWER
HAND OVER HAND.
8 ATTACH "U" BOLT TO CLEANING DEVICE, SECURE WIRE RO
PE, DISCONNECT.
9 WIND ON SPOOL.
10 PULL WIRE ROPE THROUGH TO REDUCE SLACK.
11 ATTACH WIRE TO MECHANICAL PULLING SYSTEM AND DISCO
NNECT.
12 WIRE SPOOL ACROSS MANHOLE OPENING.
13 PULL DEVICE BACK BY HAND WHEN OPERATION STALLS.
14 CONNECT AND DISCONNECT FIRE HOSE.
15 FLUSH SEWER LINE.
16 START AND STOP PULLING DEVICE, MOUNT AND ALIGHT, P
ULL FOR CLEANING.

- 17 SET UP WIRE GUIDE DEVICE IN MANHOLES.
- 18 ATTACH WIRE ROPE TO GUIDING DEVICE AND REMOVE.
- 19 CLIMB UP OR DOWN MANHOLE LADDER.
- 20 PRY LOOSE CLEANING DEVICE.
- 21 CLEANING DEVICE FORWARD AND REVERSE.
- 22 CARRY DEVICE BETWEEN MANHOLES.
- 23 CLEANING DEVICE OUT OF HOLE AND LOWER.
- 24 OBTAIN, USE AND REPLACE STEEL TYPE.
- 25 ADDITIONAL WALKING IN AREA.

QT 141 1 TURN VALVE ON AND OFF.
2 CLEAN JOINTS.
3 INSTALL LAST PIPE.
4 INSTALL ADDITIONAL PIPE SECTIONS.
5 CHECK JOINTS.
6 MOVE MATERIAL (CWT).

QT 142 1 TURN VALVE ON AND OFF.
2 CLEAN JOINT.
3 INSTALL LAST PIPE SECTION.
4 INSTALL ADDITIONAL PIPE SECTION.
5 CHECK JOINTS.
6 MOVE MATERIAL (CWT).

QT 143 1 TURN VALVE ON AND OFF.
2 CLEAN JOINT.
3 INSTALL LAST PIPE SECTION.
4 INSTALL ADDITIONAL SECTION.
5 CHECK JOINTS.
6 MOVE MATERIAL (CWT).

QT 144 1 TURN VALVE ON AND OFF.
2 CLEAN JOINTS.
3 INSTALL LAST PIPE SECTION.
4 INSTALL ADDITIONAL SECTION.
5 CHECK JOINTS.
6 MOVE MATERIAL (CWT).

QT 145 1 TURN VALVE ON AND OFF.
2 CLEAN JOINTS.
3 INSTALL LAST PIPE SECTION.
4 INSTALL ADDITIONAL SECTIONS.
5 CHECK JOINTS.
6 MOVE MATERIAL (CWT).

QT 146 1 TURN VALVE ON AND OFF.
2 INSTALL NEW PIPE SECTION.
3 INSTALL NEW PIPE FITTING.
4 CHECK JOINTS.
5 MOVE MATERIAL (CWT).
6 MOVE MATERIAL.

QT 147 1 TURN VALVE ON AND OFF.
2 INSTALL PIPE SECTION.
3 INSTALL PIPE FITTING.
4 INSTALL PIPE SUPPORT, 2 PER SECTION.
5 EXTRA WALKING BETWEEN FLOORS.
6 CHECK JOINTS.
7 MOVE MATERIAL.
8 MOVE MATERIAL (CWT).

QT 148 1 CUT OFF WATER VALVE.
2 CHECK BREAK BEFORE REMOVAL.
3 REMOVE BROKEN WATER PIPE SECTION.
4 REMOVE ADDITIONAL SECTIONS.
5 MOVE MATERIAL (CWT).

QT 149 1 CUT OFF WATER VALVE.
2 CHECK BREAK BEFORE REMOVAL.
3 REMOVE BROKEN WATER PIPE SECTION.
4 REMOVE ADDITIONAL SECTIONS.
5 MOVE MATERIAL (CWT).

QT 150 1 CUT OFF WATER VALVE.
2 CHECK BREAK BEFORE REMOVAL.
3 REMOVE BROKEN WATER PIPE SECTION.
4 REMOVE ADDITIONAL SECTIONS.
5 MOVE MATERIAL (CWT).

QT 151 1 CUT OFF WATER VALVE.
2 CHECK BREAK BEFORE REMOVAL.
3 REMOVE BROKEN WATER PIPE SECTION.
4 REMOVE ADDITIONAL SECTIONS.
5 MOVE MATERIAL (CWT).

QT 152 1 CHECK BREAK OR LEAK.
2 CUT WATER VALVE ON AND OFF.
3 REMOVE FIRST BROKEN SECTION.
4 REMOVE ADDITIONAL SECTIONS.
5 MATERIAL HANDLING (CWT).
6 CLEAN JOINTS.
7 INSTALL SECTION OF PIPE.
8 INSTALL LAST SECTION.
9 CHECK FOR LEAKS ADDITIONAL SECTIONS.

QT 153 1 CHECK BREAK OR LEAK.
2 CUT WATER VALVE ON AND OFF.
3 REMOVE FIRST BROKEN SECTION.
4 REMOVE ADDITIONAL SECTIONS.
5 MATERIAL HANDLING (CWT).
6 CLEAN JOINTS.
7 INSTALL SECTION OF PIPE.
8 INSTALL LAST SECTION.
9 CHECK FOR LEAKS ADDITIONAL SECTIONS.
10 CHECK FOR LEAKS LAST SECTION.

QT 154 1 CHECK BREAK OR LEAK.
2 CUT WATER VALVE ON AND OFF.
3 REMOVE FIRST BROKEN SECTION.
4 REMOVE ADDITIONAL SECTION.
5 MATERIAL HANDLING (CWT).
6 CLEAN JOINTS.
7 INSTALL SECTION OF PIPE.
8 INSTALL LAST SECTION.
9 CHECK FOR LEAKS ADDITIONAL SECTIONS.
10 CHECK FOR LEAKS LAST SECTION.

- QT 155 1 CHECK BREAK OR LEAK.
2 CUT WATER VALVE ON AND OFF.
3 REMOVE FIRST BROKEN SECTION.
4 REMOVE ADDITIONAL SECTIONS.
5 MATERIAL HANDLING (CWT).
6 CLEAN JOINTS.
7 INSTALL SECTION OF PIPE.
8 INSTALL LAST SECTION.
9 CHECK FOR LEAKS ADDITIONAL SECTIONS.
10 CHECK FOR LEAKS LAST SECTION.
- QT 156 1 CLEAN PIPE ENDS.
2 PLACE PIPE IN TRENCH USING CRANE.
3 PLACE FLANGE ON PIPE.
4 PLACE GASKET IN HUB.
5 POSITION PIPE ENDS TOGETHER.
6 IN AND OUT OF TRENCH.
7 INSTALL BOLTS (4 EACH).
8 INSPECT JOINT.
9 MATERIAL HANDLING.
- QT 157 1 CLEAN PIPE ENDS.
2 PLACE PIPE IN TRENCH USING CRANE.
3 PLACE FLANGE ON PIPE.
4 PLACE GASKET IN HUB.
5 POSITION PIPE END TOGETHER.
6 IN AND OUT OF TRENCH.
7 INSTALL BOLTS (4 EACH).
8 INSPECT JOINT.
9 MATERIAL HANDLING.
- QT 158 1 DISCONNECT FLANGE JOINTS.
2 REMOVE FLANGE GASKET AND ORIFICE RING.
3 MAKE TWO NEW GASKETS
4 INSTALL NEW FLANGE GASKETS AND ORIFICE RING.
5 CONNECT FLANGE JOINT.
6 CLEAN FLANGE FACES AND ORIFICE.
7 INSPECT FLANGE CONNECTION.
- QT 159 1 DISCONNECT FLANGE JOINT.
2 REMOVE FLANGE GASKET.
3 MAKE NEW GASKET.
4 INSTALL NEW GASKET.
5 CONNECT FLANGE JOINTS.
6 CLEAN FLANGE FACES.
- QT 160 1 DISCONNECT FLANGE JOINT 8" ID.
2 REMOVE ADDITIONAL BOLTS.
3 REMOVE GASKET.
4 MAKE GASKET.
5 INSTALL GASKET.
6 CONNECT FLANGED JOINT 8" ID.
7 INSTALL ADDITIONAL BOLTS.
8 CLEAN FLANGE FACES.
9 INSPECT CONNECTION.

QT 161 1 DISCONNECT FLANGE JOINT, 8 BOLTS.
2 REMOVE ADDITIONAL BOLTS (4).
3 REMOVE GASKET.
4 CLEAN FLANGE FALES.
5 MAKE GASKET.
6 INSTALL GASKET.
7 CONNECT FLANGE JOINT.
8 INSTALL ADDITIONAL BOLTS (4).
9 INSPECT FLANGE JOINT.
10 MATERIAL HANDLING.

QT 162 1 CLEAN JOINT.
2 INSTALL FITTING.
3 INSPECT JOINT.
4 MOVE TOOLS AND MATERIALS.

QT 163 1 CLEAN JOINT.
2 INSTALL NEW PIPE SECTION.
3 INSPECT JOINT.
4 MATERIAL AND TOOL MOVEMENT.

QT 164 1 INSTALL PIPE IN STACK POSITION.
2 INSPECT JOINT.
3 MOVE MATERIAL.

QT 165 1 CLIMB IN AND OUT OF DITCH OR HOLE.
2 INSTALL PIPE AND FITTING.

QT 166 1 CHECK BREAK BEFORE REMOVAL.
2 REMOVE BROKEN PIPE SECTION.
3 MOVE MATERIALS.

QT 167 1 CHECK BREAK OR LEAK.
2 CLEAN JOINTS.
3 REMOVE BROKEN PIECE, INSTALL NEW PIPE.
4 INSPECT JOINTS.
5 MOVE MATERIALS.

QT 168 1 CHECK BREAK OR LEAK.
2 CLEAN JOINTS.
3 REMOVE AND INSTALL PIPE.
4 INSPECT JOINTS.
5 MOVE MATERIALS.

QT 169 1 CLEAN JOINTS OF SECTION.
2 CLEAN JOINTS OF FITTING.
3 INSTALL NEW PIPE SECTION.
4 INSTALL NEW FITTING.
5 INSPECT JOINT OF SECTION.
6 INSPECT JOINT OF FITTING.
7 MATERIAL AND TOOL MOVEMENT FOR SECTION.
8 MATERIAL AND TOOL MOVEMENT FOR FITTING.

QT 170 1 INSTALL PIPE OR FITTING.
2 INSPECT JOINT.
3 ADDITIONAL MATERIAL HANDLING.

QT 171 1 INSTALL SECTION OF PIPE.
2 INSPECT JOINT.
3 ADDITIONAL MATERIAL HANDLING.

QT 172 1 INSTALL FITTING.
2 INSPECT JOINT.
3 ADDITIONAL MATERIAL HANDLING.

QT 173 1 REMOVE CLAY PIPE.
2 ADDITIONAL MATERIAL HANDLING.

QT 174 1 REMOVE AND INSTALL SECTION OF PIPE.
2 INSPECT JOINT.
3 ADDITIONAL MATERIAL HANDLING.

QT 175 1 REMOVE AND INSTALL SECTION OF PIPE.
2 INSPECT JOINT.
3 ADDITIONAL MATERIAL HANDLING.

QT 176 1 REMOVE CLAY PIPE FROM TRENCH.
2 ADDITIONAL MATERIAL HANDLING.

QT 177 1 CLIMB IN AND OUT OF TRENCH. AVERAGE ONCE PER 5 SECTIONS.
2 REMOVE PIPE SECTION.
3 ADDITIONAL MATERIAL HANDLING.

QT 178 1 INSTALL, IN A TRENCH, ONE SECTION OF PIPE BY HAND.
2 INSPECT JOINT.
3 ADDITIONAL MATERIAL HANDLING.

QT 179 1 INSTALL 10" TO 12" CLAY PIPE IN A TRENCH.
2 INSPECT JOINT.
3 ADDITIONAL MATERIAL HANDLING.

QT 180 1 INSTALL ONE SECTION OF 15" TO 36" B & S VITRIFIED CLAY PIPE INTO TRENCH.
2 INSPECT JOINT.

QT 181 1 INSTALL ONE SECTION OF PIPE INTO A TRENCH USING A CRANE.
2 INSPECT THE JOINTS.

QT 182 1 REMOVE CLAY PIPE FROM TRENCH.
2 INSTALL CLAY PIPE INTO TRENCH.

QT 183 1 REMOVE CLAY PIPE FROM TRENCH BY HAND.
2 INSTALL CLAY PIPE, BY HAND INTO A TRENCH.

QT 184 1 REMOVE PIPE FROM A TRENCH, WITH CRANE.
2 INSTALL, INTO A TRENCH, ONE SECTION OF PIPE.

QT 185 1 REMOVE SECTION OF PIPE FROM TRENCH, WITH CRANE.
2 INSTALL PIPE INTO TRENCH, USING A CRANE.

QT 186 1 MEASURE, CUT & REAM BOTH ENDS OF TUBING
2 ASSEMBLE TWO FLARE NUTS TO TUBING

QT 187 1 MEASURE, CUT & REAM TUBING AND ATTACH TWO NUTS
2 ATTACH FITTING TO TUBING

QT 188 1 MEASURE, CUT & REAM TUBING AND ATTACH TWO NUTS
2 ATTACH FITTING(S) TO TUBING

QT 189 1 MEASURE, CUT & REAM BOTH ENDS OF TUBING
2 ASSEMBLE ONE FLARE NUT TO TUBING
3 ATTACH FITTING WITH ONE SCREW UNION
4 ATTACH FITTING WITH ONE SOLDER JOINT

QT 190 1 MEASURE, CUT & REAM BOTH ENDS OF TUBING
2 ATTACH FITTING BY SOLDERING ONE JOINT

QT 191 1 MEASURE, CUT & REAM BOTH ENDS OF TUBING
2 ATTACH FITTING(S) BY SOLDERING TWO JOINTS

QT 196 1 REMOVE FLANGES.

QT 197 1 REMOVE BRASS FLANGES.

QT 198 1 CLEAN FLANGE AND PIPE.
2 INSTALL FLANGES.
3 CHECK AND INSPECT FLANGES.
4 MOVE MATERIAL (ARM LOAD).

QT 199 1 CLEAN PIPE END.
2 FIT UP FLANGE AND TACK WELD.
3 CHECK FLANGE FITTING.
4 MOVE MATERIAL (ARM LOAD).

QT 200 1 INSTALL FLANGE.
2 INSTALL ADDITIONAL BOLTS.
3 MATERIAL HANDLING.

QT 201 1 SLIP COUPLING ON PIPE END.
2 SLIP PIPE INTO COUPLING.
3 BOLT UP COUPLINGS.
4 CLIMB IN AND OUT OF TRENCH.
5 MATERIAL HANDLING (CWT).
6 INSPECT JOINTS.

QT 202 1 CLEAN PIPE END.
2 FIT UP FLANGE AND TACK WELD - 2 MEN.
3 CHECK AND INSPECT WORK.

QT 203 1 CLEAN FLANGES AND PIPE ENDS.
2 INSTALL THREADED BRASS FLANGES - 2 MEN.
3 CHECK AND INSPECT FLANGES.
4 MOVE MATERIAL (ARM LOAD).

QT 204 1 DISCONNECT FLANGED JOINT.
2 REMOVE GASKET.
3 MAKE NEW GASKET.
4 INSTALL NEW GASKET.
5 CONNECT FLANGE JOINTS.
6 INSPECT FLANGE CONNECTION.
7 CLEAN FLANGE FACES.

QT 205 1 FABRICATE PIPE SUPPORT.
2 INSTALL SUPPORTS ON MASONRY SURFACE.
3 CONNECT FLANGED ENDS TO EXISTING FLANGES.
4 MAKE TWO GASKETS.
5 CHECK AND INSPECT JOINTS.
6 MOVE MATERIAL (CWT).

QT 206 1 CLEAN PIPE END.
2 FIT UP FLANGE TO EACH END & TACK WELD - 2 MEN.
3 CHECK AND INSPECT WORK.
4 MOVE MATERIAL (CWT).

QT 207 1 MAKE PIPE SUPPORTS.
2 INSTALL SUPPORTS ON MASONRY.
3 CLEAN FLANGE FITTINGS.
4 FIT UP FLANGE AND TACK WELD.
5 CONNECT FLANGED ENDS TO EXISTING FLANGE CONNECTION
S.
6 MAKE TWO GASKETS.
7 CLEAN EXISTING FLANGE FACES.
8 CHECK AND INSPECT JOINTS.
9 MOVE MATERIAL (CWT).

QT 208 1 TURN 2 VALVES OFF.
2 DISCONNECT FLANGE JOINT (8 BOLTS).
3 REMOVE ADDITIONAL BOLTS (4).
4 REMOVE GASKETS.
5 REMOVE HANGER BOLTS.
6 MOVE MATERIAL (CWT).

QT 209 1 MAKE SUPPORTS.
2 INSTALL SUPPORTS.
3 MAKE TWO GASKETS.
4 CLEAN EXISTING FLANGE FACES.
5 INSTALL FLANGE SECTION.
6 INSTALL ADDITIONAL BOLTS (4).
7 INSTALL GASKETS.
8 CHECK AND INSPECT JOINTS.
9 MOVE MATERIAL (CWT).

QT 210 1 TURN VALVES OFF AND ON.
2 DISCONNECT FLANGE JOINTS.
3 DISCONNECT 24 ADDITIONAL BOLTS
4 REMOVE HANGERS.
5 INSTALL BLIND FLANGE.
6 INSTALL ADDITIONAL BOLTS.
7 MATERIAL HANDLING (CWT).

QT 211 1 TACK WELD FLANGES TO PIPE.
2 CLIMB IN AND OUT OF TRENCH.
3 POSITION PIPE (CRANE).
4 CONNECT FLANGE JOINT.
5 INSTALL ADDITIONAL BOLTS (4).
6 ADDITIONAL TIME FOR CRAMPED AREA.
7 INSPECT JOINT.
8 ADDITIONAL TOOL HANDLING.
9 MATERIAL HANDLING (CWT).

QT 212 1 TURN VALVES OFF AND ON.
2 REMOVE BLIND FLANGE.
3 REMOVE ADDITIONAL BOLTS (4).
4 REMOVE GASKET.
5 CLEAN FLANGE FACE.
6 INSTALL NEW GASKETS.
7 CONNECT FLANGE JOINTS AND BLIND FLANGE.
8 INSTALL ADDITIONAL BOLTS.
9 ADDITIONAL TOOL HANDLING.
10 WALK TO TURN VALVES OFF AND ON.
11 POSITION PIPE WITH CRANE.
12 INSPECT JOINTS.
13 MATERIAL HANDLING (CWT).

QT 213 1 FABRICATE SUPPORTS.
2 INSTALL PIPE SUPPORTS.
3 CUT AND THREAD PIPE SECTION.
4 INSTALL THREADED FLANGES.
5 CLEAN FLANGES.
6 CONNECT FLANGED SECTIONS.
7 MAKE THREE GASKETS.
8 CHECK AND INSPECT JOINTS.
9 MOVE MATERIAL (CWT).

QT 214 1 CUT TWO VALVES OFF.
2 RELOCATE AND CLIMB PORTABLE SCAFFOLD.
3 DISCONNECT JOINTS 8 BOLTS.
4 REMOVE ADDITIONAL BOLTS.
5 REMOVE GASKETS.
6 REMOVE PIPE SECTION USING CRANE.
7 ADDITIONAL TOOL HANDLING.
8 REMOVE PIPE SUPPORTS.
9 ADDITIONAL WALK TO CUT OFF VALVES.
10 MATERIAL HANDLING.

QT 215 1 TURN VALVES OFF AND ON.
2 CLIMB IN AND OUT OF TRENCH.
3 DISCONNECT JOINTS.
4 DISCONNECT ADDITIONAL BOLTS (4).
5 REMOVE GASKETS AND INSTALL.
6 CLEAN FLANGE FACES.
7 MAKE TWO GASKETS.
8 REMOVE PIPE SECTION AND INSTALL WITH CRANE.
9 CONNECT FLANGE JOINTS.
10 INSTALL 24 ADDITIONAL BOLTS
11 EXTRA TIME FOR INTRICATE AREA.
12 ADDITIONAL TOOL HANDLING.
13 WALK TO TURN VALVES OFF AND ON.
14 MATERIAL HANDLING (CWT).
15 INPSECT WORK.

QT 216 1 CLEAN FLANGE FITTINGS.
2 FIT UP FLANGE AND TACK WELD. 2 MEN.
3 INSTALL SUPPORTS.
4 MAKE SUPPORTS.
5 MAKE 3 GASKETS.
6 INSTALL GASKETS.
7 CONNECT FLANGE JOINT (8 BOLTS).
8 INSTALL ADDITIONAL BOLTS (4).
9 CHECK AND INSPECT JOINTS.
10 MOVE MATERIAL (CWT).

QT 217 1 TURN VALVES OFF AND ON.
2 CLIMB IN AND OUT OF TRENCH.
3 ADDITIONAL WALK TO TURN VAVES OFF AND ON.
4 DISCONNECT JOINTS.
5 DISCONNECT ADDITIONAL BOLTS (4).
6 REMOVE PIPE SECTION.
7 CUT PIPE.
8 FIT AND WELD.
9 POSITION PIPE AND VALVE CRANE.
10 CONNECT JOINTS.
11 ADDITIONAL BOLTS (4).
12 ADDITIONAL TIME FOR WORK LOCATION.
13 ADDITIONAL TOOL HANDLING.
14 INSPECT JOINTS.
15 INSTALL GASKET 1 NEW.
16 MATERIAL HANDLING (CWT).

QT 218 1 CLIMB IN AND OUT OF TRENCH.
2 POSITION PIPE (CRANE).
3 CONNECT FLANGE JOINTS.
4 INSTALL ADDITIONAL BOLTS (4).
5 ADDITIONAL TIME FOR CRAMPED AREA.
6 INSPECT JOINTS.
7 MATERIAL HANDLNG (CWT).

QT 219 1 CLEAN FLANGE FITTINGS.
2 FIT UP FLANGE AND TACK WELD.
3 INSTALL SUPPORTS.
4 MAKE SUPPORTS.
5 MAKE SIX GASKETS.
6 CONNECT FLANGED ENDS.
7 ADDITIONAL TOOL HANDLING.
8 CHECK AND INSPECT JOINTS.
9 MOVE MATERIAL (CWT).

QT 220 1 CUT AND THREAD PIPE.
2 INSTALL FLANGES.
3 INSTALL HANGERS.
4 CONNECT FLANGE JOINTS.
5 INSPECT JOINTS.
6 MATERIAL HANDLING.

QT 221 1 CLIMB IN AND OUT OF TRENCH.
2 POSITION PIPE WITH CRANE.
3 CONNECT FLANGE JOINTS.
4 INSTALL ADDITIONAL BOLTS (4).
5 ADDITIONAL TIME FOR CRAMPED AREA.
6 INSPECT JOINTS.
7 ADDITIONAL TOOL HANDLING.
8 MATERIAL HANDLING CWT.

QT 222 1 CUT AND THREAD PIPE.
2 INSTALL FLANGES ON PIPE.
3 INSTALL SUPPORTS.
4 CONNECT FLANGE JOINTS.
5 INSPECT JOINTS.
6 MATERIAL HANDLING.

QT 223 1 CUT, REAM AND THREAD PIPE.
2 INSTALL NIPPLES TO FITTINGS AND FLANGES TO NIPPLES
AND PIPE.
3 CONNECT FLANGE JOINTS.
4 INSTALL SUPPORTS.
5 INSPECT JOINTS.
6 MATERIAL HANDLING.

QT 224 1 CUT AND THREAD PIPE.
2 INSTALL FLANGES ON PIPE SECTIONS.
3 INSTALL HANGERS.
4 CONNECT FLANGE JOINTS.
5 INSPECT JOINTS.
6 MATERIAL HANDLING CWT.

QT 225 1 CLIMB IN AND OUT OF TRENCH.
2 POSITION PIPE WITH CRANE.
3 CONNECT FLANGES.
4 INSTALL ADDITIONAL BOLTS.
5 ADDITIONAL TIME FOR CRAMPED AREA.
6 ADDITIONAL TOOL HANDLING.
7 INSPECT JOINTS.
8 MATERIAL HANDLING (CWT).

QT 226 1 INSTALL HANGERS.
2 CONNECT FLANGE JOINTS.
3 INSPECT JOINTS.
4 MATERIAL HANDLING (CWT.).

QT 227 1 CUT AND THREAD PIPE.
2 INSTALL NIPPLES TO FITTINGS AND FLANGES TO NIPPLES
AND PIPE.
3 INSTALL HANGERS.
4 CONNECT FLANGE JOINTS.
5 INSTALL ADDITIONAL BOLTS.
6 INSPECT JOINTS.
7 MATERIAL HANDLING (CWT.).

QT 228 1 CUT, REAM & THREAD ONE END.
2 INSPECT THREADS.
3 MATERIAL HANDLING.

QT 229 1 CUT, REAM AND THREAD PIPE.
2 CHECK & INSPECT THREADS.

QT 230 1 CUT AND REAM PIPE.
2 CLEAN REAMED ENDS.
3 INSPECT AND CHECK ENDS.
4 MATERIAL HANDLING.

QT 231 1 CUT, REAM AND THREAD PIPE.
2 INSPECT AND CHECK THREADS.
3 MATERIAL HANDLING.

QT 232 1 CUT AND REAM PIPE.
2 CLEAN BOTH ENDS.
3 INSPECT ENDS.
4 MOVE MATERIAL.

QT 233 1 CUT, REAM AND THREAD 6" PIPE.
2 INSPECT THREADS.
3 MOVE MATERIAL.

QT 234 1 CUT, ASSEMBLE AND INSTALL SECTION OF PIPE.
2 INSTALL FITTING.
3 MOVE TOOLS AND MATERIALS.
4 INSPECT SECTION OF PIPE.
5 INSPECT FITTING OF PIPE.

QT 235 1 CUT, ASSEMBLE AND INSTALL SECTION OF PIPE.
2 INSTALL FITTING.
3 MOVE TOOLS AND MATERIALS.
4 INSPECT SECTION OF PIPE.
5 INSPECT FITTING OF PIPE.

QT 236 1 CUT, ASSEMBLE AND INSTALL SECTION OF PIPE.
2 MOVE TOOLS AND MATERIALS.
3 INSPECT JOINT.

QT 237 1 CUT, ASSEMBLE, INSTALL AND TEST SECTION OF PIPE.
2 MOVE TOOLS AND MATERIALS.
3 INSPECT JOINT.

QT 238 1 INSTALL SECTION OF PIPE OR FITTING.
2 MOVE TOOLS AND MATERIALS.
3 INSPECT JOINT.

QT 239 1 INSTALL TEE, THREE JOINTS.
2 MOVE TOOLS AND MATERIALS.
3 INSPECT JOINTS.

QT 240 1 CUT EXISTING PIPE AND INSTALL TEE, ONE JOINT.
2 CONNECT THE REMAINING TWO JOINTS OF THE TEE.
3 MOVE TOOLS AND MATERIALS.
4 INSPECT JOINTS.

QT 241 1 INSTALL FITTING.
2 MOVE TOOLS AND MATERIALS.
3 INSPECT JOINT.

QT 242 1 REMOVE BROKEN PIPE AND INSTALL NEW SECTION.
2 MOVE TOOLS AND MATERIALS.
3 INSPECT JOINTS.

QT 243 1 CUT, ASSEMBLE AND INSTALL SECTION OF PIPE.
2 MOVE TOOLS AND MATERIALS.
3 INSPECT JOINTS.

QT 244 1 INSTALL SECTION OF PIPE OR FITTING.
2 MOVE TOOLS AND MATERIALS. MATERIAL HANDLING EVERY
3 PIECES.
3 INSPECT JOINT.

QT 245 1 INSTALL TEE, THREE JOINTS.
2 MOVE TOOLS AND MATERIALS.
3 INSPECT JOINTS.

QT 246 1 CUT EXISTING PIPE AND INSTALL TEE, ONE JOINT.
2 CONNECT THE REMAINING TWO JOINTS OF THE TEE.
3 MOVE TOOLS AND MATERIALS.
4 INSPECT JOINTS.

QT 247 1 INSTALL FITTING.
2 MOVE TOOLS AND MATERIALS.
3 INSPECT JOINT.

- QT 248 1 REMOVE BROKEN PIPE AND INSTALL NEW SECTION.
2 MOVE TOOLS AND MATERIALS.
3 INSPECT JOINTS.
- QT 249 1 REMOVE ONE SECTION OF BROKEN PIPE.
2 INSTALL FITTINGS ON STATIONARY PIPE SECTIONS.
3 CUT, ASSEMBLE AND INSTALL NEW SECTION OF PIPE (ONE JOINT).
4 COMPLETE OTHER JOINT ON NEW PIPE SECTION.
5 INSPECT JOINTS.
6 MOVE TOOLS AND MATERIALS.
- QT 250 1 CLEAN PIPE SECTION FOR JOINT.
2 CLEAN FITTING FOR JOINT.
3 INSTALL FITTING.
4 INSTALL NEW PIPE SECTION.
5 OPEN WATER VALVE.
6 CHECK PIPE SECTION FOR LEAKS AT JOINT.
7 CHECK FITTING FOR LEAKS AT JOINT.
8 MOVE PIPE SECTION.
9 MOVE FITTING.
- QT 251 1 CLEAN PIPE SECTION FOR JOINT.
2 CLEAN FITTING FOR JOINT.
3 INSTALL FITTING.
4 INSTALL NEW PIPE SECTION.
5 OPEN WATER VALVE.
6 CHECK PIPE SECTION FOR LEAKS.
7 CHECK FITTING FOR LEAKS.
8 MOVE PIPE SECTION.
9 MOVE FITTING.
- QT 252 1 CLEAN JOINT.
2 INSTALL FITTING.
3 OPEN WATER VALVE.
4 CHECK JOINT FOR LEAKS.
5 MOVE MATERIAL.
- QT 253 1 CLEAN JOINT.
2 INSTALL FITTING.
3 OPEN WATER VALVE.
4 CHECK JOINT FOR LEAKS.
5 MOVE MATERIAL.
- QT 254 1 TURN OFF WATER VALVE.
2 EXAMINE BREAK.
3 REMOVE FIRST PIPE SECTION.
4 MATERIAL MOVEMENT.
5 REMOVE EACH ADDITIONAL SECTION.
6 MATERIAL MOVEMENT.

QT 255 1 TURN OFF WATER VALVE.
2 EXAMINE BREAK.
3 REMOVE FIRST PIPE SECTION.
4 MATERIAL MOVEMENT.
5 REMOVE EACH ADDITIONAL SECTION.

QT 256 1 REMOVE 2 OR MORE SECTIONS OF BROKEN PIPE.
2 INSTALL FIRST SECTION.
3 INSTALL SEVERAL SECTIONS.

QT 257 1 REMOVE 2 OR MORE SECTIONS OF BROKEN PIPE.
2 INSTALL FIRST SECTION.
3 INSTALL SEVERAL SECTIONS OF PIPE.

QT 258 1 CHECK BREAK.
2 TURN WATER OFF AND ON.
3 REMOVE AND INSTALL BROKEN PIPE.
4 CHECK JOINTS FOR LEAKS.
5 MATERIAL HANDLING.

QT 259 1 CHECK BREAK.
2 TURN WATER OFF AND ON.
3 REMOVE AND INSTALL BROKEN PIPE.
4 CHECK JOINTS FOR LEAKS.
5 MATERIAL HANDLING.

QT 260 1 CLOSE VALVE.
2 REMOVE PIPE SECTION.
3 MATERIAL HANDLING SECTION.

QT 261 1 CLOSE VALVE.
2 REMOVE SECTION.
3 MATERIAL HANDLING SECTION.

QT 262 1 CUT AND THREAD PIPE.
2 INSTALL FITTING.
3 INSTALL PIPE SECTION.
4 CHECK AND INSPECT JOINTS.
5 MATERIAL HANDLING.
6 OPEN VALVE.

QT 263 1 CUT AND THREAD PIPE.
2 INSTALL FITTING.
3 INSTALL PIPE SECTION.
4 CHECK AND INSPECT JOINTS.
5 MATERIAL HANDLING.
6 OPEN VALVE.

QT 264 1 CUT AND THREAD PIPE.
2 INSTALL FITTING.
3 INSTALL PIPE SECTION.
4 CHECK AND INSPECT JOINTS.
5 MATERIAL HANDLING.
6 OPEN VALVE.

QT 265 1 FABRICATE SUPPORT.
2 INSTALL CLEVIS TYPE SUPPORT ON WOOD OR METAL SURFACE.
3 MATERIAL HANDLING.

QT 267 1 REMOVE PIPE AND FITTING.
2 INSTALL PIPE AND FITTING.

QT 268 1 REMOVE PIPE AND FITTING.
2 INSTALL PIPE FITTING.

QT 270 1 OPEN AND CLOSE TWO VALVES.
2 CUT INTO MAIN LINE.
3 CUT SECTION OUT OF MAIN LINE AND THREAD BOTH ENDS.
4 INSTALL TEE TO NEW END.
5 INSTALL NIPPLE TO TEE.
6 INSTALL AND CONNECT UNION TO OTHER THREADED END.
7 INSTALL NIPPLE TO TEE.
8 INSTALL VALVE TO NIPPLE.
9 INSTALL ANOTHER NIPPLE AND UNION.
10 CUT AND THREAD PIPE SECTIONS.
11 INSTALL FITTINGS.
12 INSTALL REMAINING PIPE SECTIONS.
13 CHECK AND INSPECT JOINTS.
14 ADDITIONAL TOOL HANDLING.
15 MOVE MATERIAL (ARMLoad).

QT 271 1 INSTALL VALVE, STRAINER & TRAP.
2 CUT AND THREAD PIPE.
3 INSTALL FITTINGS TO PIPE.
4 INSTALL PIPE TO FITTINGS.
5 INSPECT ASSEMBLY.
6 MOVE MATERIAL.

QT 272 1 INSTALL NIPPLE TO TEE.
2 INSTALL ELL TO NIPPLE.
3 INSTALL NIPPLE TO ELL.
4 INSTALL VALVES TO NIPPLES.
5 INSTALL NIPPLES TO VALVES.
6 INSTALL 1/2 UNION TO NIPPLES.
7 INSTALL NIPPLES IN P.R. VALVE.
8 INSTALL 1/2 UNION TO NIPPLES.
9 MEASURE FOR FIT.
10 CUT PIPE FOR BY-PASS.
11 INSTALL PIPE TO ELL.
12 INSTALL 1/2 UNION TO PIPE.
13 CONNECT UNION NUTS.
14 INSTALL RELIEF VALVE.
15 INSTALL COUPLING ON NIPPLE.
16 INSTALL GAGE.
17 INSTALL STRAINER.
18 CUT INTO LINE AND INSTALL. ONE SECTION AND TWO FITTINGS.
19 INSTALL ADDITIONAL FITTING.
20 MATERIAL HANDLING.

QT 273 1 CUT INTO LINE INSTALL TEE. ONE SECTION AND THREE FITTINGS.
2 INSTALL TWO ADDITIONAL FITTINGS NOT INCLUDED IN THE PREVIOUS DETAIL.
3 CUT AND THREAD PIPE SECTION.
4 INSTALL PIPE SECTION.
5 INSTALL FITTINGS.
6 INSPECT JOINTS.
7 INSTALL C - CLAMPS.
8 MATERIAL HANDLING.

QT 274 1 CUT AND THREAD PIPE.
2 REMOVE PIPE SECTIONS.
3 ASSEMBLE FITTINGS TO NIPPLE.
4 INSTALL PIPE SECTION.
5 CONNECT UNION.
6 REMOVE PIPE HANGERS AND REPLACE.
7 INSTALL PIPE SECTIONS.
8 INSTALL COUPLINGS.
9 INSTALL HANGERS.
10 MATERIAL HANDLING.

QT 275 1 CUT AND THREAD PIPE SECTIONS.
2 INSTALL PIPE SECTIONS.
3 INSTALL PIPE SECTIONS.
4 INSTALL FITTINGS.
5 CHECK AND INSPECT JOINTS.
6 CLIMB IN AND OUT OF DITCH.
7 MOVE MATERIAL (ARMLoad).

QT 276 1 INSTALL NIPPLE TO TEE.
2 INSTALL ELL TO NIPPLE.
3 INSTALL NIPPLE TO ELL.
4 INSTALL VALVES TO NIPPLES.
5 INSTALL NIPPLES TO VALVES.
6 INSTALL 1/2 UNION TO NIPPLES.
7 INSTALL NIPPLES TO P.R. VALVE.
8 INSTALL 1/2 UNION TO NIPPLES.
9 MEASURE FOR FIT.
10 CUT PIPE FOR BY-PASS.
11 INSTALL PIPE TO ELL.
12 INSTALL 1/2 UNION TO PIPE.
13 CONNECT UNION NUTS.
14 INSTALL RELIEF VALVE.
15 INSTALL COUPLING ON NIPPLE.
16 INSTALL REDUCING FITTING.
17 INSTALL GAGE.
18 INSTALL STRAINER.
19 CUT INTO EXISTING LINE.
20 REMOVE PIPE SECTIONS.
21 CUT AND THREAD ENDS OF SECTIONS.
22 INSTALL PIPE SECTIONS.
23 MATERIAL HANDLING (CWT).

QT 277 1 INSTALL VALVE, STRAINER AND TRAP.
2 INSTALL PIPE SUPPORTS.
3 CUT AND THREAD PIPE.
4 INSTALL FITTINGS TO PIPE.
5 INSTALL PIPE TO FITTINGS.
6 RELOCATE AND CLIMB PORTABLE SCAFFOLD.
7 OPEN AND CLOSE TWO VALVES.
8 CUT INTO MAIN LINE.
9 CUT SECTION OUT OF MAIN LINE AND THREAD BOTH ENDS.
10 INSTALL TEE TO NEW END.
11 INSTALL NIPPLE TO TEE.
12 INSTALL AND CONNECT UNION TO OTHER THREADED END.
13 INSTALL NIPPLE TO TEE.
14 INSTALL VALVE TO NIPPLE.
15 INSTALL ANOTHER NIPPLE AND UNION.
16 INSTALL PIPE TO UNION.
17 CONNECT UNION BETWEEN NIPPLE AND PIPE.
18 INSTALL HEATER.
19 HANDLING HEATER.
20 MAKE PIPE SUPPORTS.
21 RAISE UNIT WITH BLOCK AND TACKLE.
22 LASH AND UNLASH UNIT.
23 ADDITIONAL TOOL AND HANDLING.
24 INSPECT ASSEMBLY.
25 MOVE MATERIAL.

QT 278 1 CUT PIPE LINE.
2 REMOVE PIPE SECTIONS.
3 CUT AND THREAD ENDS.
4 ASSEMBLE FITTINGS AND FLANGES.
5 MATERIAL HANDLING (CWT).
6 INSTALL PIPE SECTIONS.
7 CONNECT FLANGE JOINT.
8 INSTALL PIPE SECTIONS.
9 INSTALL COUPLINGS AND FITTINGS.
10 REMOVE HANGERS.
11 INSTALL NEW HANGERS.
12 MATERIAL HANDLING.

QT 279 1 INSTALL SECTION OF PIPE.
2 INSPECT JOINT.
3 ADDITIONAL MATERIAL HANDLING.

QT 280 1 INSTALL SECTION OF PIPE.
2 INSPECT JOINT.
3 ADDITIONAL MATERIAL HANDLING.

QT 281 1 INSTALL PIPE OR FITTINGS.
2 INSPECT JOINT.
3 ADDITIONAL MATERIAL HANDLING.

QT 282 1 INSTALL FITTING.
2 INSPECT JOINT.
3 ADDITIONAL MATERIAL HANDLING.

QT 283 1 INSTALL FITTING.
2 INSPECT JOINT.
3 ADDITIONAL MATERIAL HANDLING.

QT 284 1 INSTALL SECTION OF PIPE.
2 INSPECT JOINT.
3 ADDITIONAL MATERIAL HANDLING.

QT 285 1 INSTALL SECTION OF PIPE.
2 INSPECT JOINT.
3 ADDITIONAL MATERIAL HANDLING.

QT 286 1 INSTALL SECTION OF PIPE.
2 INSPECT JOINT.
3 ADDITIONAL MATERIAL HANDLING.

QT 287 1 INSTALL SECTION OF PIPE.
2 INSPECT JOINT.
3 ADDITIONAL MATERIAL HANDLING.

QT 288 1 REMOVE TRANSITE PIPE.
2 ADDITIONAL MATERIAL HANDLING.

QT 289 1 REPAIR PIPE.
2 ADDITIONAL MATERIAL HANDLING.

QT 290 1 TURN WATER OFF AND ON, TWO VALVES.
2 REMOVE SHOWER HEAD.
3 CHECK SHOWER HEAD.
4 INSTALL SHOWER HEAD.

QT 291 1 TURN VALVE OFF AND ON.
2 LOOSEN LOCKNUT.
3 REMOVE SPUD CONNECTION.
4 REMOVE GASKET OR WASHER.
5 CLEAN SPUD SEAT.
6 INSTALL NEW GASKET OR WASHER.
7 INSTALL SPUD CONNECTION.
8 TIGHTEN LOCKNUT.
9 INSPECT CONNECTION.

QT 292 1 TURN VALVES ON AND OFF.
2 REMOVE PACKING NUT AND INSTALL.
3 REMOVE VALVE STEM AND CAP.
4 REMOVE SEAT WASHER FROM STEM, AND INSTALL.
5 PRY OUT WASHER.
6 INSTALL WASHER.
7 INSTALL STEM.
8 TIGHTEN MAIN GLAND VALVES IF NECESSARY.
9 TEST FAUCET.

- QT 293 1 UNSCREW TRAP PLUG TO DRAIN AND INSTALL NEW ONE.
2 DISCONNECT UNIONS AND INSTALL NEW.
3 REMOVE TRAP AND INSTALL NEW.
4 INSPECT TRAP.
5 CLEAN TRAP.
- QT 294 1 DRILL (2) HOLES IN WOOD WALL.
2 INSTALL LAG SCREWS.
3 INSTALL BASE OF SUPPORT.
4 INSTALL ROD.
5 INSTALL HALF ROUND BASE.
6 INSTALL 2ND HALF OVER PIPE.
7 INSTALL BOLTS.
8 MOVE MATERIAL.
- QT 295 1 LOOSEN NUTS.
2 REMOVE RODS.
3 REMOVE WASHERS.
4 REMOVE NUTS.
5 INSTALL NEW NUTS.
6 INSTALL WASHERS.
7 PUT RODS INTO POSITION.
8 TIGHTEN NUTS.
9 ADJUST RODS AND CHECK ALIGNMENT.
10 MOVE MATERIAL.
- QT 296 1 DISCONNECT STRAINER FROM WALL NIPPLE AND PACKING NUT.
2 REMOVE STRAINER LOCK NUT.
3 REMOVE STRAINER WASHER AND TRAP AND INSTALL.
4 REMOVE AND INSTALL STRAINER NUT, PACKING NUT AND CONNECT TRAP TO WALL NIPPLE.
5 CLEAN OUT TRAP AND STRAINER.
- QT 297 1 MEASURE SINK DIMENSIONS.
2 MEASURE WALL.
3 MEASURE HOLE IN BRACKETS.
4 FIT UP BRACKETS.
5 MARK HOLES ON WALL AND DRILL.
6 PUT BOLTS IN HANGER.
7 PUT TOGGLES ON BOLTS.
8 PUT HANGERS ON WALL.
9 POSITION TOGGLE BOLTS IN HOLES.
10 TIGHTEN TOGGLE BOLTS.
11 MATERIAL HANDLING.
- QT 298 1 INSTALL FAUCETS.
2 ASSEMBLE TWO FLARE NUTS TO TUBING
3 CONNECT FAUCETS AND TUBING
4 CONNECT TUBING

- QT 299 1 CUT HOT AND COLD VALVES OFF.
2 UNSCREW TRAP PLUG TO DRAIN.
3 DISCONNECT TRAP UNIONS.
4 REMOVE TRAP.
5 DISCONNECT WATER SUPPLY UNIONS.
6 REMOVE WASH BASIN (ARMLOAD).
7 REMOVE HANGER SCREWS.
8 REMOVE HANGERS.
9 INSTALL PLUGS ON WATER SUPPLY.
10 INSTALL CAP ON DRAIN.
11 CHECK AND INSPECT CONNECTIONS.
- QT 300 1 TURN WATER OFF AND ON
2 REMOVE SHOWER HEAD.
3 REMOVE SHOWER ARM.
4 REMOVE PIPE STRAPS.
5 REMOVE SUPPLY PIPE.
6 REMOVE ELBOW.
7 MEASURE PIPE.
8 CUT AND THREAD SUPPLY PIPE.
9 INSTALL SUPPLY PIPE.
10 INSTALL ELBOW 90 DEGREES.
11 INSTALL SHOWER ARM.
12 INSTALL SHOWER HEAD.
13 CHECK INSTALLATION.
14 MOVE MATERIALS.
15 INSTALL PIPE STRAPS.
- QT 301 1 REMOVE FAUCET HANDLE AND SCREWS.
2 REMOVE ESCUTCHEONS AND HANDLE.
3 DISCONNECT FEED LINES.
4 DISCONNECT DRAIN FROM TRAP.
5 DISCONNECT BASKET.
6 REMOVE BASKET AND GASKET.
7 REMOVE OLD BASIN.
8 INSTALL NEW BASIN.
9 INSTALL BASKET IN BASIN.
10 CONNECT DRAIN.
11 INSTALL FAUCETS.
12 INSTALL ESCUTCHEONS.
13 INSTALL FAUCET HANDLES.
14 TURN WATER OFF AND ON.
15 CHECK ALL JOINTS FOR LEAKS.
16 MATERIAL HANDLING.
- QT 302 1 POSITION BASIN.
2 REMOVE CAPS.
3 REMOVE NIPPLES AND COUPLINGS.
4 FIT NEW TAILPIECE TO COUPLING.
5 POSITION TAILPIECE ASSEMBLY.
6 INSTALL NEW NIPPLE ON FEED LINE.
7 INSTALL COUPLING.
8 CONNECT TAILPIECE ASSEMBLY TO FEED.
9 INSTALL FAUCETS.
10 POSITION TRAP.
11 CONNECT TRAP UNIONS.
12 TIGHTEN SLIP NUT ON BASIN BODY.
13 TURN HOT AND COLD VALVES ON.
14 CHECK FOR LEAKS.
15 MOVE MATERIAL (ARMLOAD).

- QT 303 1 INSTALL NEW HANGERS.
2 INSTALL WALL BASIN.
- QT 304 1 LEVEL AND MARK LINE FOR BRACKETS AND DRILL HOLES F
OR SCREWS.
2 POSITION BRACKETS.
3 INSTALL SCREWS.
4 INSTALL TUB ON BRACKETS.
5 ADJUST BRACKETS FOR PROPER DRAINAGE.
6 SECURE LOCK NUTS.
7 INSTALL TUB STRAINER.
8 CONNECT STRAINER TO TRAP.
9 CONNECT TRAP TO DRAIN LINE.
10 INSTALL FAUCETS.
11 CONNECT FAUCETS TO SUPPLY LINES.
- QT 305 1 CUT OFF WATER (HOT AND COLD).
2 REMOVE NUT ON TAILPIECE.
3 REMOVE WASHER.
4 REMOVE FAUCET.
5 UNSCREW TRAP PLUG TO DRAIN.
6 DISCONNECT TRAP UNION.
7 REMOVE WASH BASIN FROM SUPPORTS.
8 INSTALL NEW WALL WASH BASIN.
9 INSTALL COMBINATION FAUCETS WITH COPPER TUBING AND
HARDWARD.
- QT 306 1 UNCRATE SHOWER STALL.
2 POSITION SHOWER STALL.
3 CONNECT SHOWER BASE TO SEWER LINE.
4 MEASURE PIPE.
5 CUT AND THREAD SUPPLY PIPE.
6 INSTALL FAUCET FITTINGS.
7 INSTALL ESCUTCHEONS.
8 INSTALL LOCK NUTS.
9 INSTALL SUPPLY PIPE.
10 INSTALL ELBOW 90 DEGREES.
11 INSTALL SHOWER ARM.
12 INSTALL SHOWER HEAD.
13 CHECK AND INSPECT.
14 MATERIAL HANDLING.
- QT 307 1 REMOVE WALL BASIN INCLUDING DISCONNECTING DRAIN &
SUPPLY.
2 REMOVE HANGER SCREWS.
3 REMOVE HANGERS.
4 MOVER MATERIAL (ARMLOAD).
5 CHECK HANGERS.
6 REMOVE AND INSTALL FAUCETS.
7 INSTALL HANGERS.
8 INSTALL WASH BASIN, CONNECT DRAINS, SUPPLIES AND F
AUCETS.

- QT 308 1 UNCRATE SHOWER STALL.
2 POSITION SHOWER BASE.
3 CONNECT SHOWER BASE TO SEWER LINE.
4 INSTALL SHOWER SIDES.
5 SECURE SIDES TO BASE (8 HOLES PER SIDE).
6 MEASURE PIPE.
7 CUT & THREAD SUPPLY PIPE.
8 INSTALL FAUCET FITTINGS.
9 INSTALL ESCUTCHEONS.
10 INSTALL LOCK NUTS.
11 INSTALL SUPPLY PIPE.
12 INSTALL ELBOW 90 DEGREES.
13 INSTALL SHOWER ARM.
14 INSTALL SHOWER HEAD.
15 CHECK AND INSPECT.
16 MATERIAL HANDLING.
- QT 309 1 UNCRATE SERVICE SINK (TOP) - 4 PIECES WITH 4 NAILS
PER PIECE.
2 INSTALL HANGERS.
3 CONNECT TRAP TO SINK.
4 INSTALL COMBINATION FAUCET.
5 POSITION SERVICE SINK.
6 CUT, REAM, THREAD 4 SECTIONS OF PIPE.
7 MEASURE FOR PIPE INSTALLATION.
8 ASSEMBLE 8 FITTINGS.
9 ASSEMBLE 4 PIPES.
10 CONNECT HOT AND COLD WATER.
11 CONNECT TRAP SPIGOT END TO SOIL PIPE (BELL).
12 TURN VALVES OFF.
13 TURN HOT AND COLD WATER ON.
14 CHECK AND INSPECT.
15 MOVE MATERIAL (CWT).
- QT 310 1 INSTALL HANGERS.
2 INSTALL SUPPORTS.
3 INSTALL WALL WASH BASIN.
- QT 311 1 TURN VALVE OFF.
2 REMOVE PACKING NUTS.
3 REMOVE FLUSH VALVE.
4 CHECK FOR LEAK.
- QT 312 1 INSTALL GASKET.
2 INSTALL STRAINER, WASHER & GRILL.
3 INSTALL LOCK NUT.
4 INSTALL METAL GRID IN STRAINER.
5 INSTALL TAIL PIECE.

- QT 313 1 UNPACK DISPOSAL.
2 WIPE AREA AROUND DRAIN OPENING.
3 APPLY PUTTY AROUND OPENING.
4 PLACE SINK SLEEVE IN OPENING.
5 WIPE AROUND SLEEVE.
6 PLACE GASKET, BACK-UP RING, AND MOUNTING RING ON SLEEVE.
7 SLIDE ASSEMBLY ABOVE GROOVE ON SLEEVE AND INSERT SNAP RING.
8 TIGHTEN THREE SCREWS ON MOUNTING RING.
9 POSITION DISPOSAL.
10 TURN BODY FLANGE UNTIL DISPOSAL IS SUPPORTED.
11 ALIGN DISPOSAL WITH TRAP.
12 SECURE DISPOSAL WITH MOUNTING RING.
13 ATTACH DISCHARGE TUBE TO DISPOSAL (FLANGE & BOLT).
14 CONNECT DISCHARGE TUBE WITH TRAP (SLIP NUT).
15 DRILL HOLE FOR AIR GAP IN SINK.
16 INSTALL AIR GAP FIXTURE IN SINK.
17 CONNECT HOSE BETWEEN AIR GAP AND DISHWASHER.
18 TEST FOR LEAKS.
- QT 314 1 TURN VALVE ON AND OFF.
2 REMOVE AND INSTALL COVER.
3 REMOVE AND INSTALL 2 SCREWS.
4 REMOVE AND INSTALL VALVE ROD LIFTER.
5 REMOVE AND INSTALL VALVE ROD.
6 REMOVE WASHER.
7 INSTALL WASHER.
8 GRIND VALVE SEAT.
9 CHECK OPERATION.
- QT 315 1 POSITION EYEWASH.
2 INSTALL THREE LAG BOLTS TO FLOOR.
3 CONNECT DRAIN.
4 INSTALL FAUCET.
5 TURN WATER OFF AND ON.
6 CHECK JOINTS FOR LEAKS.
7 MATERIAL HANDLING.
- QT 316 1 REMOVE SCREW PLUG AND SCREW IN HANDLE AND INSTALL.
2 REMOVE HANDLE AND INSTALL.
3 REMOVE ESCUTCHEON AND INSTALL.
4 REMOVE LOCKNUT AND INSTALL.
5 REMOVE FAUCET.
6 INSTALL FAUCET.
7 INSPECT CONNECTION.
8 TURN VALVE OFF AND ON.
- QT 317 1 TURN VALVES OFF.
2 REMOVE HANDLE SCREW.
3 REMOVE HANDLE.
4 REMOVE ESCUTCHEON NUT.
5 REMOVE ESCUTCHEON.
6 REMOVE LOCK NUT ON FAUCET.
7 REMOVE LOCK NUT ON SPOUT.
8 REMOVE SLIP NUT ON SPOUT.
9 REMOVE COMBINATION.
10 REMOVE SLIP NUT FROM TUBING.
11 REMOVE COUPLING NUT.
12 REMOVE TUBING.

- QT 318 1 REMOVE LOCK NUT AND UNION.
2 REMOVE STRAINER.
3 INSTALL STRAINER.
- QT 319 1 UNPACK DISPOSAL.
2 REMOVE DRAIN SLEEVE.
3 DISCONNECT UNIONS.
4 REMOVE TRAP.
5 CLEAN OLD PUTTY OFF AROUND DRAIN.
6 APPLY PUTTY AROUND OPENING.
7 PLACE SINK SLEEVE IN OPENING.
8 WIPE AROUND SLEEVE.
9 PLACE GASKET, BACKUP RING AND MOUNTING RING ON SLEEVE.
10 SLIDE ASSEMBLY ABOVE GROOVE ON SLEEVE AND INSERT SNAP RING.
11 TIGHTEN THREE (3) SCREWS ON MOUNTING RING.
12 POSITION DISPOSAL.
13 TURN BODY FLANGE UNTIL DISPOSAL IS SUPPORTED.
14 ALIGN DISPOSAL WITH TRAP.
15 SECURE DISPOSAL WITH MOUNTING RING.
16 ATTACH DISCHARGE TUBE TO DISPOSAL (FLANGE & BOLT).
17 CLEAN TRAP.
18 INSTALL TRAP.
19 CONNECT DISCHARGE TUBE WITH TRAP (SLIP NUT).
20 CONNECT HOSE TO DISHWASHER.
21 TEST FOR LEAKS.
- QT 320 1 TURN VALVES OFF AND ON.
2 INSTALL FAUCET FITTINGS.
3 INSTALL ESCUTCHEONS.
4 INSTALL COUPLING NUT.
5 INSTALL LOCK NUTS.
6 INSTALL COMBINATION FAUCET.
7 TURN VALVE ON AND TEST HOT AND COLD FAUCETS.
8 CHECK AND INSPECT.
- QT 321 1 TURN VALVE OFF.
2 REMOVE PACKING NUTS.
3 REMOVE FLUSH VALVE.
4 REMOVE NUTS FROM BOLTS.
5 REMOVE BOWL FROM FLANGE.
6 REMOVE GASKET.
7 MOVE MATERIALS (CWT).
- QT 322 1 TURN ON AND OFF.
2 REMOVE INDICATOR CAP.
3 REMOVE HANDLE SCREW.
4 REMOVE HANDLE.
5 REMOVE ESCUTCHEON CAP.
6 REMOVE ESCUTCHEON
7 REMOVE LOCKNUT ON FAUCET.
8 REMOVE LOCKNUT ON SPOUT.
9 REMOVE SLIP NUT ON SPOUT.
10 REMOVE COMBINATION UNIT.
11 REMOVE SLIP NUT FROM TUBING.
12 REMOVE TUBING.
13 INSTALL FAUCET FITTINGS.
14 INSTALL ESCUTCHEON CAPS.
15 INSTALL LOCKNUTS.
16 INSTALL COMBINATION FAUCET.
17 TEST FAUCETS.
18 CHECK AND INSPECT.

- QT 323 1 REMOVE THREADED COVER.
2 REMOVE INSIDE COVER.
3 REMOVE RELIEF VALVE.
4 REMOVE DISC.
5 REMOVE DIAPHRAGM.
6 CLEAN SEAT.
7 INSTALL DIAPHRAGM, DISC, RELIEF VALVE AND INSIDE COVER.
8 REMOVE UNION.
9 REMOVE HANDLE.
10 REMOVE GASKET.
11 REMOVE HANDLE PACKING NUT.
12 REMOVE PACKING.
13 REMOVE BUSHING.
14 REMOVE SPRING.
15 CLEAN PARTS.
16 INSTALL SPRING.
17 INSTALL BUSHING.
18 REPACK HANDLE.
19 INSTALL PACKING NUT.
20 INSTALL GASKET.
21 INSTALL HANDLE.
22 INSTALL HANDLE LOCK NUT.
23 CHECK.
- QT 324 1 TURN VALVE OFF.
2 REMOVE PACKING NUTS.
3 REMOVE FLUSH VALVE.
4 UNSCREW TRAP PLUG TO DRAIN.
5 DISCONNECT UNIONS.
6 REMOVE TRAP.
7 REMOVE TOGGLE BOLTS.
8 REMOVE URINAL FROM WALL.
9 MOVE MATERIAL.
- QT 325 1 TURN VALVE OFF.
2 REMOVE PACKING NUTS.
3 REMOVE FLUSH VALVE.
4 LOOSEN LOCKNUTS.
5 REMOVE TAILPIECE FROM TRAP.
6 REMOVE LOCKNUTS.
7 REMOVE TAILPIECE FROM URINAL.
8 REMOVE URINAL.
9 EXTRA WALKING BETWEEN FLOORS.
10 MOVER MATERIALS.
- QT 326 1 REMOVE PACKING NUTS.
2 FREE TRAP AND PULL OFF.
3 REMOVE TAILPIECE LOCKNUT.
4 REMOVE SPUD NUT.
5 REMOVE SPUD AND GASKET.
6 CLEAN SPUD SEAT.
7 INSTALL NEW "P" TRAP FROM DRAIN PIPE.
8 INSTALL NEW SPUD AND GASKET.
9 HAND TIGHT.
10 INSTALL 2 GASKETS ON TAIL PIECE.
11 INSTALL 1 NUT ON TAIL PIECE.
12 CONNECT PACKING NUTS.
13 CHECK MECHANISM.
14 MOVE MATERIAL.

- QT 327 1 CUT AND THREAD NIPPLE.
2 INSTALL NIPPLE AND ANGLE STOP.
3 INSTALL PACKING NUTS ON TAILPIECE.
4 SET FLUSH VALVE FOR MEASURING TAILPIECE.
5 REMOVE FLUSH VALVE AND TAILPIECE.
6 REMOVE PACKING NUTS FROM TAILPIECE.
7 CUT TAILPIECE TO LENGTH.
8 INSTALL PACKING NUTS ON TAILPIECE.
9 INSTALL FLUSH VALVE.
10 TIGHTEN PACKING NUTS.
11 TURN ON ANGLE STOP.
12 CHECK AND INSPECT.
13 ADJUST FLOW.
14 MOVE MATERIAL.
- QT 328 1 TURN VALVE OFF AND ON.
2 REMOVE AND INSTALL COVER.
3 REMOVE AND INSTALL FLOAT ON ROD.
4 REMOVE AND INSTALL FLOAT ROD.
5 REMOVE AND INSTALL FLOAT VALVE.
6 CLEAN VALVE SEAT.
7 REMOVE AND INSTALL LOCK NUT ON VALVE.
8 REMOVE WASHER ON FLOAT VALVE.
9 INSERT WASHER ON FLOAT VALVE.
10 REMOVE AND INSTALL ROD IN BALL.
11 REMOVE AND INSTALL LIFT ROD.
12 REMOVE AND INSTALL RUBBER BALL IN VALVE.
13 REMOVE AND INSTALL FLUSH PIPE NUTS.
14 REMOVE AND INSTALL FLUSH PIPE LOCK NUTS.
15 INSTALL RUBBER GASKETS ON FLUSH PIPE.
16 ADJUST PARTS.
17 CHECK OPERATION.
18 REMOVE AND INSTALL SUPPLY SLIP NUT.
19 MOVE MATERIAL.
- QT 329 1 INSTALL CLOSET SINK TO ROUGH PLUMBING.
2 POSITION GRATE.
3 INSTALL SCREWS ON GRATE.
- QT 330 1 INSTALL SINK INTO COUNTERTOP.
2 REMOVE CAPS.
3 REMOVE NIPPLES AND COUPLINGS.
4 FIT NEW TAILPIECE TO COUPLING.
5 POSITION TAILPIECE ASSEMBLY.
6 INSTALL NEW NIPPLE ON FEED LINE.
7 INSTALL COUPLING.
8 CONNECT TAILPIECE ASSEMBLY TO FEED.
9 INSTALL FAUCETS.
10 POSITION TRAP.
11 CONNECT TRAP UNIONS.
12 TIGHTEN SLIP NUT ON BASIN BODY.
13 TURN HOT AND COLD VALVES ON.
14 CHECK FOR LEAKS.
15 APPLY PUTTY AROUND SINK.
16 INSTALL SEAL RING.
17 TURN SEAL RING NUTS BY HAND.
18 FINAL TIGHTENING OF BOLTS.
19 MOVE MATERIALS (ARMLoad).

- QT 331 1 TURN VALVE OFF AND ON.
2 REMOVE PACKING NUTS.
3 REMOVE AND INSTALL NUTS FROM BOLTS.
4 REMOVE BOWL FROM FLANGE AND INSTALL.
5 REMOVE GASKET.
6 INSTALL GASKET.
7 APPLY PUTTY.
8 CLEAN PUTTY AND BOWL FOUNDATION.
9 CONNECT PACKING NUTS.
10 CHECK OPERATION.
11 MOVE MATERIAL.
- QT 332 1 UNCRATE BOWL.
2 PLACE GASKET.
3 INSTALL BOWL.
4 PUT BOLTS IN RING.
5 INSTALL NUTS ON BOLTS.
6 INSTALL FLUSHOMETER.
7 TURN VALVE ON.
8 CHECK AND INPSECT.
- QT 333 1 UNCRATE URINAL.
2 INSTALL GASKET.
3 MEASURE URINAL DIMENSIONS.
4 FIT UP URINAL TO WALL.
5 MEASURE MARK AND HAND DRILL 2 HOLES.
6 PUT IN BOLTS.
7 PUT NUTS ON BOLTS.
8 INSTALL FLUSHOMETER PIPE.
9 INSTALL URINAL.
10 CLEAN URINAL.
11 CONNECT UNIONS.
12 TURN WATER OFF AND ON.
13 ADJUST PARTS.
14 CHECK AND INSPECT.
15 MATERIAL HANDLING.
- QT 334 1 CUT OFF HOT AND COLD WATER.
2 REMOVE TRAP FROM SOIL PIPE.
3 DISCONNECT HOT AND COLD WATER.
4 REMOVE SINK FROM WALL.
5 REMOVE LOCK NUTS.
6 REMOVE ESCUTCHEONS.
7 DISCONNECT FAUCET FITTINGS.
8 DISCONNECT TRAP FROM SINK.
9 REMOVE HANGER NUTS.
10 REMOVE HANGER BOLTS.
11 REMOVE HANGERS.
12 MOVE MATERIAL
13 CUT OFF MAIN WATER VALVE.
14 CAP PIPES.
15 EXTRA WALKING.

QT 335 1 ASSEMBLE THREADED FITTING.
2 INSTALL P-TRAP.

QT 336 1 INSTALL WALL PIPE SUPPORT.
2 INSTALL WALL HANGERS FOR URINAL.
3 INSTALL URINAL (ON HANGERS).
4 INSTALL FLUSH VALVE.
5 INSTALL STRAINER AND TRAP.

QT 337 1 UNCRATE BOWL AND TANK
2 INSTALL BACKBOARD FOR TANK.
3 MEASURE FOR HANGERS.
4 MARK AND DRILL FOUR HOLES.
5 PLACE GASKET IN EXISTING DRAIN.
6 POSITION TOILET BOWL.
7 INSTALL BOLTS THROUGH RING.
8 APPLY PUTTY.
9 INSTALL NUTS ON BOLTS.
10 PLACE TANK ON BOARD.
11 INSTALL LAG SCREWS.
12 CONNECT WATER PIPE.
13 INSTALL NUT ON SLIP JOINT.
14 INSTALL NUTS ON FLUSH PIPE.
15 POSITION SEAT ON BOWL.
16 INSTALL NUTS TO SECURE SEAT.
17 TURN WATER VALVE ON.
18 TEST FLUSH VALVE.
19 CHECK FOR LEAKS.
20 ADJUST FOR FLOW.
21 MATERIAL HANDLING.
22 CLEAN BOWL.

QT 338 1 TURN WATER OFF AND ON.
2 REMOVE SEAT NUTS.
3 REMOVE SEAT.
4 DISCONNECT FLUSH PIPE.
5 DISCONNECT FEED LINE.
6 REMOVE LAG SCREWS.
7 REMOVE TANK FROM WALL.
8 REMOVE STOOL NUTS FROM BOLTS.
9 REMOVE BOWL.
10 BOLTS FROM RING.
11 REMOVE GASKET.
12 INSTALL NEW BOWL AND TANK WITH NEW BACKBOARD.
13 MOVE MATERIAL.

QT 339 1 INSTALL URINAL.
2 INSTALL FLUSH VALVE.
3 INSTALL P-TRAP AND CONNECT TO DRAIN LINE 3" LEADED JOINT.

- QT 340 1 TURN VALVES ON AND OFF.
2 REMOVE AND REINSTALL 6 SCREWS FROM TRAP COVER.
3 REMOVE SEAT ASSEMBLY, BALL ASSEMBLY AND AIR PASS SEAT (BELLOWS) FROM COVER.
4 WIRE BRUSH COVER AND SCRAPE, REMOVE RUST.
5 ASSEMBLE SEAT ASSEMBLY AND BALL ASSEMBLY (14 PARTS).
6 INSTALL SEAT ASSEMBLY, BALL ASSEMBLY AND AIR PASS SEAT (BELLOWS) IN TRAP COVER.
7 REMOVE AND REINSTALL LOWER PLUG.
8 REMOVE AND REPLACE STRAINER.
9 MATERIAL HANDLING.
- QT 341 1 DISCONNECT DISCHARGE TUBE FROM TRAP.
2 DISCONNECT HOSE TO DISHWASHER.
3 LOOSEN MOUNTING RING (3 SCREWS).
4 REMOVE DISPOSAL.
5 REMOVE SNAP RING.
6 REMOVE MOUNTING RING, BACKUP RING AND GASKET.
7 INSTALL NEW DISPOSAL.
- QT 342 1 CUT BROKEN METAL PIPE SECTION OUT. USE HAND TOOL.
2 REMOVE OLD PIPE SECTION.
3 INSTALL SECTION OF PLASTIC PIPE AND FITTING.
4 INSTALL ADDITIONAL FITTING.
- QT 343 1 CUT BROKEN METAL PIPE SECTION OUT. USE HAND TOOL.
2 REMOVE OLD PIPE SECTION.
3 INSTALL SECTION OF PLASTIC PIPE AND FITTING.
4 INSTALL ADDITIONAL FITTING.
- QT 344 1 TURN VALVE ON AND OFF.
2 PICK UP AND LAY ASIDE SMALL TOOLS.
3 CLEAN PIPE SURFACE WITH WIRE BRUSH.
4 POSITION SADDLE CLAMP AND REMOVE.
5 LEVEL CLAMP ON PIPE.
6 MARK LOCATION OF CLAMP ON PIPE.
7 CUT HOLE IN PIPE WITH BALLPEEN HAMMER.
8 POSITION CLAMP ON PIPE.
9 INSTALL TWO CLAMP RINGS WITH 4 NUTS. RUN NUTS BY HAND.
10 HAMMER CLAMP INTO POSITION.
11 LEVEL CLAMP.
12 TIGHTEN 4 NUTS ON CLAMP RINGS WITH WRENCH.
13 ADDITIONAL MATERIAL HANDLING.
14 INSPECT GASKET SEAL FOR LEAKS.
- QT 345 1 PICK UP SMALL TOOLS AND LAY ASIDE.
2 CLEAN SCALE AND RUST FROM VALVE WITH WIREBRUSH AND FILE.
3 INSTALL AND REMOVE PRESSURE RELIEF VALVE ON TEST STAND WITH PIPE WRENCH.
4 TURN TEST STAND VALVE ON AND OFF.
5 TEST HIGH PRESSURE LIMIT WITH MANUALLY OPERATED IN LINE PUMP.
6 IGNITE AND SHUT OFF TEST BOILER (MANUALLY THROW SWITCH).
7 TEST HIGH TEMPERATURE LIMIT.
8 CHECK PRESSURE AND TEMPERATURE GAUGES.
9 CLEAN TEST STAND.

- QT 346 1 PERSONAL PREPARATION FOR ASBESTOS REMOVAL. (INCLUDES) OBTAIN/DISPOSE OF DISPOSABLE CLOTHING, REMOVE/
2 OBTAIN POLY BAG, DISPOSE OF DISPOSABLE CLOTHING IN BAG, TAPE BAG AND ASIDE.
3 OBTAIN POLY BAG, PLACE REUSABLE CLOTHING IN POLY BAG, TAPE AND ASIDE.
- QT 347 1 CONSTRUCT AIR-TIGHT ENCLOSURE TO FIT OVER PIPE
2 ADJUST PIPE ENCLOSURE ON WORK BENCH
3 REACH INTO PIPE ENCLOSURE WITH ONE HAND
4 OBTAIN AND ASIDE SCISSORS
5 CUT 5" HOLES FOR TOOL BAG, ARM SLEEVES AND NOZZLE
6 OBTAIN GLOVES
7 INSPECT ARM HOLES
8 TRIM 5" HOLES FOR TOOL BAG AND ARM SLEEVES
9 CONSTRUCT TWO ARM SLEEVES
10 POSITION GLOVES TO SLEEVES
11 OBTAIN AND ASIDE TWO-SIDED TAPE
12 OBTAIN, CUT TAPE AND ASIDE SCISSORS
13 APPLY TAPE TO EACH END OF EACH ARM SLEEVE (5"DIA)
14 REMOVE PAPER BACKING FROM TWO-SIDED TAPE
15 POSITION AND REPOSITION GLOVES TO TAPE ON SLEEVES
16 POSITION AND REPOSITION SLEEVES TO ARM HOLDS
17 SECURE SEAM BY PRESSING EDGES TO TAPE (63 LIN IN)
18 CHECK ARM ENCLOSURES
19 WALK 50 PACES TO SUPPLY ROOM AND RETURN
20 GET SPECIAL WASTE BAG USED FOR ASBESTOS DISPOSAL
21 CONSTRUCT SLEEVE TO BE USED FOR TOOL BAG
22 POSITION TOOL SLEEVE & WASTE BAG TO PRE-CUT HOLES
23 OBTAIN AND ASIDE TWO-SIDED TAPE
24 OBTAIN, CUT TAPE AND ASIDE SCISSORS
25 APPLY TAPE TO EDGE OF TOOL SLEEVE AND WASTE BAG
26 APPLY TAPE TO END OF TOOL SLEEVE TO FORM BAG (8")
27 REMOVE PAPER BACKING FROM TWO-SIDED TAPE
28 POSITION TAPE ON WASTE BAG TO EDGE OF PIPE ENCLOS.
29 TURN PIPE ENCLOSURE DURING ASSEMBLY
30 POSITION TAPE ON END OF TOOL SLEEVE TO FORM BAG
31 POSITION TAPE ON TOOL BAG TO EDGE OF PIPE ENCLOS.
32 SECURE SEAMS BY PRESSING EDGES TO TAPE (80 LIN IN)
- QT 348 1 OBTAIN COVERALLS, MASK & GLOVES. 2 MENREQ.
2 DRESS IN DISPOSABLE COVERALLS. 1 MANREQ.
3 DRESS IN GOGGLES, MASK & GLOVES. 1 MANREQ.
4 OBTAIN POLYETHELENE ENCLOSURE SLEEVE. 1 MANREQ.
5 OPEN POLYETHELENE PIPE ENCLOSURE. 2 MENREQ.
6 PLACE PIPE ENCLOSURE ON PIPE. 2 MENREQ.
7 POSITION ENCLOSURE ON PIPE. 1 MANREQ.
8 SECURE ENCLOSURE BY PRESSING EDGES TO TAPE. 1 MANREQ.
9 TAPE ENDS OF ENCLOSURE TO PIPE. 2 MENREQ.
10 PLACE HANDS IN ARM-GLOVE HOLES. 1 MANREQ.
11 CUT 3FT OF INSULATION INSIDE ENCLOSURE. 2 MENREQ.
(REQ. INCREASED 30% FOR DIFFICULTY FACTOR) (SECON
12 SPRAY-WASH RESIDUE FROM ENCLOSURE WALLS INTO WASTE BAG. 2 MENREQ. (SECON
13 TIE OFF TOOL BAG WITH TOOLS ENCLOSED. 1 MANREQ.
14 CUT TOOL BAG FREE FROM ENCLOSURE. 1 MANREQ.
15 OBTAIN AND ASIDE BUCKET OF WATER. 1 MANREQ.
16 WASH 4 TOOLS. 1 MANREQ.
17 ASIDE 4 TOOLS. 1 MANREQ.
18 PLACE EMPTY TOOL BAG IN WITH WASTE ASBESTOS BAG. 2 MENREQ.
19 REMOVE DISPOSABLE COVERALLS. 1 MANREQ.
20 PLACE DISPOSABLE COVERALLS IN WASTE ASBESTOS BAG. 2 MENREQ.

- 21 REMOVE GOGGLES, MASK & GLOVES. 1 MANREQ.
- 22 FOLD POLYETHELENE ENCLOSURE IN WASTE ASBESTOS BAG.
2 MENREQ.

- QT 349 1 PREPAIR FOR TEST, TEST KIT OPEN/CLOSED, REFER TO S
CHEMATIC AND DIAGRAM.
2 OPEN AND CLOSE VALVES/TEST COCKS/FITTINGS TO TEST
KIT.
3 OBSERVATION OF GAUGES AND RECORD READINGS OF TEST,
INCLUDES PROCESS TIME FOR BLEED AIR.
- QT 350 1 PREPARE FOR TEST, TEST KIT OPEN/CLOSED, REFER TO S
CHEMATIC AND DIAGRAM.
2 OPEN AND CLOSE VALVES/TEST COCKS/FITTINGS TO TEST
KIT.
3 OBSERVATION OF GAUGES AND RECORD READINGS OF TEST,
INCLUDES PROCESS TIME FOR BLEED AIR.
- QT 351 1 BACKHOE, DIG FROM AROUND HYDRANT. HOLE SIZE 5 CU.
YDS.
2 TO/FROM MAIN VALVE 150 PACES, OPEN/CLOSE VALVE TO
FLUSH HYDRANT, WAITING TIME WHILE HYDRANT FLUSHES.
3 CLIMB IN AND OUT OF DITCH.
4 LIFT BELL HOUSING FROM HOLE. BELL WAS USED FOR HOU
SING MAIN CUT/ON VALVE.
5 REMOVE HYDRANT BY BURNING WITH CUTTING TORCH, FROM
MAIN.
6 PREPARE PIPE FOR CUTTING.
7 CUT 6" CAST IRON WATER MAIN.
8 SLING HYDRANT TO BACKHOE, LIFT, GUIDE, REMOVE SLIN
G AND ID TAG.
9 REMOVE GASKET, FABRICATE NEW, INSTALL GASKET AND C
AP.
- QT 352 1 REMOVE EARTH, 1 CU. YD. FOR INSTALLATION OF NEW F
IRE PLUG.
2 CONSTRUCT TEMPORARY PLATFORM IN FLOODED HOLE.
3 PREPARE 6" CAST IRON PIPE FOR ADAPATON OF NEW FIRE
HYDRANT.
4 LEAD IN ADDITIONAL SECTION OF PIPE AT MAIN.
5 PREPARETION OF NEW FIRE HYDRANT FOR INSTALLATION.
6 POSITION FIRE HYDRANT, BACKHOE GUIDES NEW FIRE HYD
RANT INTO PLACE.
7 LEVEL AND SECURE NEW FIRE HYDRANT.
8 FINAL PREPARATION AND TEST OF HYDRANT.
9 SHORE UP NEW FIRE HYDRANT TO INSURE SECURITY UNDER
PRESURE.
10 ADDITIONAL WIPING OF HANDS WITH RAG TO INSURE A GO
OD GRIP OF TOOLS.
- QT 353 1 SHOWER STALL REMOVAL, REMOVE ALL HARDWARE, NOZZLE,
FIXTURES, INSULATION AND DRAIN.
2 REMOVE SHOWER STALL, CURTAIN, 3 SIDE PANELS, FRAME
AND CAP.
3 REMOVE SHOWER STALL FOUNDATION, BREAK-UP AND REMOV
E BY WHEELBARROW.

- QT 354 1 FILL METERED FIVE GAL. CAN, POSITION NOZZLE, OBSERVE PUMP METER, OBSERVE SIGHT GAUGE ON CAN, DETERMINE
2 POUR 5 GAL. RESIDUAL FUEL INTO GROUND HOLDING TANK
3 REMOVE INNER/OUTER GUARD CAP, WALK TO/FROM TANK 2
4 UNLOCK/LOCK FUEL PUMP PANELS, REMOVE/REPLACE PANELS, CUT SEAL AND ADJUST METER, RESEAL.
- QT 355 1 REMOVE FUEL PUMP NOZZLE FROM HOSE, TOOLS TO PUMP, UNLOCK/LOCK NOZZLE, DRAIN NOZZLE/HOSE IN BUCKET, R
2 REPLACE FUEL PUMP NOZZLE ON HOSE, TEFLON TAPE ON THREADS, MATE HOSE AND NOZZLE, TEST NEW NOZZLE.
3 EMPTY BUCKET OF RESIDUAL FUEL INTO GROUND SUMP. UNLOCK/LOCK FUEL SUMP, REMOVE/INSTALL THREADED CAP,
- QT 356 1 REMOVE FUEL PUMP NOZZLE FROM HOSE, TOOLS TO PUMP, UNLOCK/LOCK NOZZLE, DRAIN NOZZLE/HOSE IN BUCKET, R
2 REPLACE FUEL PUMP NOZZLE ON HOSE, TEFLON TAPE ON THREADS, MATE HOSE AND NOZZLE, TEST NOZZLE.
3 REPLACE FUEL PUMP HOSE, REMOVE OLD HOSE, DRAIN HOSE OF RESIDUAL FUEL INTO BUCKET, TEFLON TAPE ON THREADS
4 EMPTY BUCKET OF RESIDUAL FUEL INTO GROUND SUMP. UNLOCK/LOCK FUEL SUMP, REMOVE/INSTALL THREADED CAP,
- QT 357 1 BACKHOE, DIG FROM AROUND HYDRANT. HOLE SIZE 5 CU. YDS.
2 TO/FROM MAIN VALVE 150 PACES, OPEN/CLOSE VALVE TO FLUSH HYDRANT, WAITING TIME WHILE HYDRANT FLUSHES.
3 CLIMB IN AND OUT OF DITCH.
4 LIFT BELL HOUSING FROM HOLE. BELL WAS USED FOR HOUSING MAIN CUT/ON VALVE.
5 REMOVE HYDRANT BY BURNING WITH CUTTING TORCH, FROM MAIN.
6 PREPARE PIPE FOR CUTTING.
7 CUT 6" CAST IRON WATER MAIN.
8 SLING HYDRANT TO BACKHOE, LIFT, GUIDE, REMOVE SLING AND ID TAG.
9 CONSTRUCT TEMPORARY PLATFORM IN FLOODED HOLE.
10 PREPARE 6" CAST IRON PIPE FOR ADAPTION OF NEW FIRE HYDRANT.
11 LEAD IN ADDITIONAL SECTION OF PIPE AT MAIN.
12 PREPARATION OF NEW FIRE HYDRANT FOR INSTALLATION.
13 POSITION FIRE HYDRANT, BACKHOE GUIDES NEW FIRE HYDRANT INTO PLACE.
14 LEVEL AND SECURE NEW FIRE HYDRANT.
15 FINAL PREPARATION AND TEST OF HYDRANT.
16 SHORE UP NEW FIRE HYDRANT TO INSURE SECURITY UNDER PRESURE.
17 ADDITIONAL WIPING OF HANDS WITH RAG TO INSURE A GOOD GRIP OF TOOLS.

QT 358 1 WALK TO/RETURN FROM VALVE.
2 OPEN OR CLOSE SMALL VALVE.

QT 359 1 WALK TO/FROM VALVE.
2 OPEN AND CLOSE SMALL VALVES.

QT 360 1 WALK TO/RETURN FROM VALVE.
2 OPEN OR CLOSE LARGE VALVE.

QT 361 1 WALK TO/FROM VALVE.
2 OPEN AND CLOSE LARGE VALVE.

QT 362 1 WALK TO VALVE.
2 CLIMB IN/OUT OF HOLE.
3 TURN TOWARD VALVE.
4 BEND TO/ ARISE FROM VALVE.
5 OPEN OR CLOSE VALVE.

QT 363 1 WALK TO VALVE.
2 CLIMB IN/OUT OF HOLE.
3 TURN TOWARD VALVE.
4 BEND TO/ ARISE FROM VALVE.
5 OPEN AND CLOSE VALVE.

QT 364 1 WALK TO VALVE.
2 CLIMB IN/OUT HOLE.
3 TURN TOWARD VALVE.
4 BEND TO/ARISE FROM VALVE.
5 OPEN OR CLOSE VALVE.

QT 365 1 WALK TO VALVE.
2 CLIMB IN/OUT OF HOLE.
3 TURN TOWARD VALVE.
4 BEND TO/ARISE FROM VALVE.
5 OPEN AND CLOSE LARGE VALVE.

QT 366 1 TURN VALVE OFF AND ON.
2 CONNECT DRAIN HOSE.
3 DISCONNECT DRAIN HOSE.
4 DRAIN OLD TANK, FILL NEW TANK.
5 DISCONNECT UNIONS.
6 CONNECT UNIONS.
7 REMOVE RELIEF VALVE.
8 REMOVE OLD HEATER AND POSITION NEW.
9 INSTALL RELIEF VALVE.
10 INSTALL 4 ADAPTERS TO SUIT NEW HEATER.
11 INSTALL DRAIN COCK ON HEATER.
12 MATERIAL HANDLING.
13 INSULATE SUPPLY PIPING FITTINGS AT NEW HEATER.
14 UNCRATE WATER HEATER - 12 PIECES.

- QT 368 1 JOB PREPERATION FOR HYDROSTATIC TEST OF 6"/8" DIA.
FUEL LINE. GARDEN HOSE IS CONECTED, TURN ON/OFF,
2 JOB SET UP FOR HYDRO TEST OF FUEL LINES. REMOVE/ I
NSTALL COVERS, CLEAN CAP PLATE. PLACE HOSE FLANGE
3 HYDRO TEST FUEL LINE. FILL HOSE TO CAPACITY WITH H
20. HAND PUMP PRESSURE ON MANIFOLD TO 150 PSI. UND
4 RELEASE VALVE PRESSURE FROM MANIFOLD SYSTEM AND SU
PPLY HOSE. OPEN VALVE, DRAIN WATER AND REMOVE HARD
- QT 369 1 INSTALL (1) PIPE SUPPORT OR HANGER IN MASONRY BLOC
K OR CEMENT.
2 MANUFACTURE (1) PIPE SUPPORT OR HANGER.
- QT 370 1 INSTALL 1" GATE VALVE ON EXISTING COPPER SYSTEM.
- QT 371 1 MEASURE WALL AREA AND MARK.
2 MEASURE OVER ALL LENGTH/WIDTH/HEIGHT OF DEVICE.
3 ASSEMBLE ALL PLUMBING FOR BACK FLOW PREVENTION DEV
ICE.
4 INSTALL GATE VALVE FOR ON/OFF FLOW CONTROL OF DEVI
CE.
5 INSTALL/MFG.(2) PIPE HANGERS IN MASONRY BLOCK TO S
UPPORT DEVIVE.
6 POSITION DEVICE ON YOKES OF PIPE HANGERS.
7 SECURE DEVICE TO YOKE OF HANGERS, 4 SCREWS.
- QT 372 1 REMOVE HANGER FROM PACKAGE.
2 POSITION ON STALL WALL.
3 ADJUST POSITION.
4 MARK WITH PENCIL, TWO PLACES.
5 ASIDE HANGER.
6 CHECK LOCATION OF HANGER WITH STEEL TAPE.
7 CENTER PUNCH TWO HOLES.
8 DRILL TWO HOLES, SECURE HANGER WITH TWO SCREWS.
9 POSITION HANGER ON STALL WALL.
- QT 373 1 MEASURE/MARK WALL, FLOOR, AND PARTITION WITH STRAI
GHT EDGE.
2 SORT HARDWARE.
3 MEASURE AND MARK HARDWARE ON FLOOR AND WALL.
4 DRILL 18 HOLES IN WALL/FLOOR AND SCREW SECURE.
5 CENTER PUNCH.
6 INSERT ANCHORS.
7 TAP ALIGN BRACKET/PARTITION WITH HAMMER.
8 MEASURE WITH STEEL TAPE.
9 POSITION PARTITION SECTIONS.
10 DRILL PILOT HOLES IN PARTITION.
11 ALIGN STALL WITH LEVEL.
12 CHANGE DRILL BIT.
13 POSITION BASE COVER.
14 INSERT NYLON DOOR HINGE.
15 INSTALL LOCK ON STALL DOOR.
16 SWEEP FLOOR.
17 INSTALL TOILET PAPER HANGER.
18 INSTALL DOOR HOOK TWO SCREWS.

- QT 374 1 SHOWER, ASSEMBLE EMERGENCY SAFETY EYEWASH AND SHOWER.
2 SHOWER, INSTALL EMERGENCY EYEWASH SHOWER, GALVANIZED, TO EXTERIOR OF BUILDING WITH TWO CLAMPS USING
- QT 375 1 REMOVE DISPENSER FROM WRAPPER.
2 POSITION ON WALL.
3 ADJUST POSITION.
4 MARK WITH PENCIL, TWO PLACES.
5 GET AND ASIDE PENCIL AND STEEL TAPE.
6 ASIDE DISPENSER.
7 CHECK LOCATION OF DISPENSER WITH STEEL TAPE.
8 CENTER PUNCH TWO HOLES.
9 GET AND ASIDE CENTER PUNCH.
10 DRILL TWO HOLES.
11 GET AND ASIDE DRILL.
12 INSERT ANCHOR.
13 INSERT WOOD SCREWS.
14 POSITION HANGER ON WALL.
- QT 377 1 UNCRATE ICE MACHINE, 12 PIECES.
2 PLUG INTO ELECTRICAL OUTLET.
3 INSPECT FOR LEAKS.
4 PULL ICE MACHINE AWAY FROM WALL AND RETURN.
5 MEASURE WALL AREA AND MARK.
6 GET AND ASIDE TEFLON TAPE.
7 WRAP THREADS OF FITTINGS WITH TEFLON TAPE.
8 GET AND ASIDE ADAPTERS.
9 HAND TIGHTEN ADAPTERS.
10 WRENCH TIGHTEN ADAPTERS.
11 GET AND ASIDE FLARING TOOL.
12 FLARE END OF TUBING.
13 GET AND ASIDE KNIFE.
14 CUT AWAY TAPE FROM EXISTING DRAIN.
15 MEASURE FOR LENGTH OF PIPE.
16 ASSEMBLE ALL PLUMBING FOR ICE MACHINE.
- QT 378 1 TURN OFF WATER SOURCE TO ICE MACHINE.
2 BEND AND ARISE TO UNPLUG ICE MACHINE.
3 UNPLUG ICE MACHINE.
4 HACKSAW COPPER PIPE.
5 MOVE MACHINE AWAY FROM WALL.
6 GET/ASIDE PLIERS.
7 CRIMP COPPER PIPE.
8 ALL WALKING REQUIRED TO PREFORM TASK, TO/FROM VALVE, PLUG, TOOL BOX, AND MACHINE.(200 FT. TOTAL)
- QT 379 1 MANUFACTURE (1) PIPE SUPPORT OR HANGER.

- QT 380 1 RADIATOR, ASSEMBLE RADIATOR SECTIONS, REMOVE KNOCK
OUT PLUGS, FILE AND BRUSH SURFACE OF ORFACE 4 PER
2 RADIATOR, LAYOUT WALL TO DIMENSIONS,INSTALL 3 WALL
BRACKETS, RADIATOR AND INLET/OUTLET PLUMBING. PLU
- QT 381 1 DISASSEMBLE 3 RADIATOR SECTIONS, LOOSEN LOCKING RA
DIATOR WALLS WITH TOOL (2 PLACES PER SECTION), POS
2 CHECK THREADS OF RADIATOR ORIFICE,(4 PER SECTION),
4 SECTIONS, WITH PIPE NIPPLE, RUN IN/OUT BY HAND
3 PREPARE RADIATOR SECTIONS FOR ASSEMBLY, POSITION 4
RADIATOR SECTIONS, REMOVE 4 KNOCK OUT PLUGS FROM
4 ASSEMBLE RADIATOR SECTIONS, REPOSITION 4 RADIATOR
SECTIONS, TIGHTEN LOCKING THREADS WITH TOOL,APPLY
- QT 382 1 LAYOUT AREA FOR RADIATOR INSTALLATION, MEASURE/ MA
RK INSTALLATION POINT ON WALL, MEASURE RADIATOR, W
2 INSTALL HARDWARE ON WALL FOR RADIATOR, DRILL 3 HOL
ES IN MASONRY BLOCK, INSTALL 3 EXPANSION ANCHORS/B
3 INSTALL HARDWARE ON RADIATOR, POSITION COMPLETED R
ADIATOR ASSEMBLY IN UP RIGHT POSITION, INSTALL 3 M
4 CARRY RADIATOR TO INSTALLATION POINT(4 MEN), LIFT
AND HANG ON BRACKETS, CHECK WITH LEVEL.
5 PREPARE RADIATOR FOR WATER HOOK-UP, FILE BURRS/ WI
RE BRUSH UNIONS, WRAP VALVE/UNIONS THREADS WITH LA
6 PREPARE PIPES FOR RADIATOR/WATER HOOK-UP, POSITION
PIPE STAND, MAKE TEMPLATES FOR BENDING PIPES, MEA
7 CUT THREADS ON PIPES FOR INSTALLATION OF RADIATOR,
PLACE PIPE SECTION IN VICE, CUT THREADS ON PIPEA
8 BEND PIPES FOR INSTALLATION OF RADIATOR, PLACE PIP
E SECTIONS IN VICE, APPLY HEAT TO PIPE, 3 BENDS 2
9 INSTALL 2 SECTIONS OF PIPE FROM WATER SOURCE TO RA
DIATOR, REMOVE INSULATION FROM 2 EXISTING WATER PI
- QT 383 1 WALK AND GET NEEDED ITEMS.
2 PREPARE, INSERT POLY BAGS, SEAL, 6 BOXES.
3 SPREAD DROP CLOTH.
4 REMOVE 10FT X 10FT AREA OF ASBESTOS SIDING SHINGLE
S.
5 DISPOSE OF ASBESTOS SHINGLES AND TAR PAPER IN 6 PO
LY BAGS.
- QT 384 1 WALK TO GET TOOLS AND MATERIALS, CUT AND POSITION
POLY.
2 SPRAY AEROSOL ADHESIVE, LIN. FT.
3 POSITION POLY.
4 PRESS POLY WITH HAND TO BOND.
5 PULL POLY TIGHT.
6 TAPE PERIMETER, LIN. FT.

- QT 388 1 GET AND ASIDE 2 POLY BAGS AND TAPE.
2 INSERT POLY BAG WITHIN POLY BAG, (DOUBLING).
3 GET AND PLACE ASBESTOS IN POLY BAG.
4 TWIST TOP OF BAG.
5 TAPE TOP OF BAG.
6 PLACE FULL BAG ASIDE.
- QT 389 1 REMOVE TAR PAPER SHELL AND PLACE IN POLY BAG.
2 REMOVE 3 METAL RETAINING BANDS.
3 REMOVE CHEESE CLOTH LAYER.
4 REMOVE 2 SPLIT MAG ASBESTOS INSULATION SHELLS.
5 SCRAPE/BRUSH SURFACE OF PIPE.
6 WET REMOVAL OPERATION WITH HOSE.(INCLUDES) WORKER
WETS ENTIRE OPERATION WITH HOSE DURING ASBESTOS RE
- QT 390 1 UNROLL 10FT LENGTH OF POLY AND CUT.
2 UNFOLD POLY.
3 SPRAY AMENDED WATER OVER INSULATION TO BE REMOVED.
4 REMOVE ASBESTOS PIPE INSULATION IN TWO PLACES IN P
REPARATION FOR SAWING PIPE.
5 CUT THRU PIPE WITH PORTABLE POWER RECIPROCATING SA
W, (2 MEN).
6 LIFT 8FT LENGTH OF REMOVED SECTION ONTO POLY. (2 M
EN)
7 ROLL REMOVED SECTION IN POLY, 3 ROLLED LAYERS, FOL
D ENDS OF POLY, TAPE.
8 WALKING WHICH IS DIRECTLY RELATED TO TASK.
- QT 394 1 GET NEEDED TOOLS AND MATERIALS, WALK 40 PACES.
2 GET AND ASIDE HAMMER, ROLL OF TAPE, 2 POLES.
3 POSITION WOODEN POLES.
4 HAMMER WOODEN POLE IN GROUND.
5 TIE END OF POLY WARNING TAPE TO FIRST POLE, TIE PO
LY WARNING TAPE TO SECOND POLE.
6 WALK 10 PACES BETWEEN WOODEN POLES.
- QT 395 1 WALK, GET AND ASIDE TOOLS.
2 SPREAD DROP CLOTH.
3 REMOVE 50 ASBESTOS SHINGLES WITH PRY BAR. (50% OF
SHINGLES ARE PRIED TWICE)
4 REMOVE NAILS.
5 REMOVE TAR PAPER.
6 WET REMOVAL OPERATION WITH HOSE. (INCLUDES) WORKER
WETS ENTIRE OPERATION WITH HOSE DURING ASBESTOS R
- QT 396 1 WALK TO GET NEEDED ITEMS.
2 REMOVE MICRO TRAP FILTERS, PRIMARY/SECONDARY.
3 REPLACE MICRO TRAP FILTERS.

- QT 397 1 WALK TO GET TOOLS AND MATERIALS.
2 POSITION VENTILATION FLEX HOSE TO FILTER AND MANIFOLD.
3 CUT FLEX HOSE TO LENGTH, 2 CUTS.
4 TAPE VENTILATION FLEX HOSE TO FILTER AND MANIFOLD, TAPE IS APPLIED 3 TIMES TO EACH DIA.
5 REMOVE MANIFOLD FROM PACKAGING.
6 POSITION MANIFOLD TO WALL.
7 SPRAY AEROSOL GLUE AROUND PERIMETER OF MANIFOLD TWICE, 16 LIN. FT.
8 TAPE PERIMETER OF MANIFOLD TWICE, 16 LIN. FT.
9 WALK 30 PACES TO ELECTRICAL OUTLET.
10 PLUG FILTER UNIT CORD INTO OUTLET.
- QT 398 1 WALK, GET AND ASIDE TOOLS/MATERIAL.
2 POSITION BOX.
3 APPLY PRESURE TO OPEN BOX.
4 CLOSE FLAP END OF BOX.
5 PLACE POLY BAG IN BOX.
6 CLOSE OPPOSITE END OF BOX.
7 SEAL BOX WITH TAPE.
8 TIE I.D. TAG TO BOX.
- QT 400 1 MOP AREA SPREADING SURFACTANT ON FLOOR.
2 REMOVE TILE WITH MACHINE.
3 SCRAPE/SHOVEL AREA.
4 VACUUM/SWEEP AREA.
- QT 401 1 WALK TO AND GET NECESSARY ITEMS.
2 CUT CLOTH IN 6FT STRIPS, DIP IN WATER AND POSITION WITH PRESSURE.
3 APPLY ASBESTOS WARNING TAPE.
- QT 402 1 BUILD FRAME FOR CONTAINMENT AREA, CUT LUMBER, ASSEMBLE.
2 COVER 8FT X 7FT CONTAINMENT AREA WITH POLY, ADD BARRIER DOOR.
- QT 404 1 WALK TO PIPE THREADING MACHINE AND RETURN.
2 MEASURE PIPE FOR INSTALLATION.
3 MEASURE PIPE AND CUT.
4 THREAD TWO ENDS OF PIPE.
5 DOPE PIPE THREADS.
6 INSTALL PIPE IN MANIFOLD.
7 INSTALL SPRINKLER HEAD.
- QT 405 1 REMOVE OLD SPRINKLER HEAD, WRENCH.
2 DOPE PIPE THREADS.
3 INSTALL NEW SPRINKLER HEAD.

QT 406 1 POSITION HANDRAILING TO MARK.
 2 LAYOUT AND MARK RAILING FOUNDATION.
 3 DRILL CEAMENT FOUNDATION FOR RAILING.
 4 SECURE BRACKET TO FOUNDATION WITH ANCHOR.
 5 WELD HANDRAIL TO FOUNDATION.

QT 407 1 INSTALL 2-SINK STRAINER BASKETS IN BOWLS OF DOUBLE
 SINK
 2 INSTALL SINGLE HANDLE KITCHEN FAUCET
 3 INSTALL HAND WATER SPRAYER ON KITCHEN SINK
 4 INSTALL 2-SHUTOFF VALVE ASSEMBLIES--INCLUDES: CUTT
 ING SUPPLY WATER LINE STUBS; INSTALLING MALE ADAPT
 5 INSTALL DOUBLE SINK IN COUNTERTOP AND SEAL AROUND
 FLANGE
 6 CONNECT WATER SUPPLY LINES FROM SHUTOFF VALVES TO
 FAUCET FITTINGS
 7 INSTALL COMPLETE DRAIN LINE ASSEMBLY FOR DOUBLE SI
 NK
 8 TEST OPERATION OF FAUCET
 9 INSPECT PLUMBING CONNECTIONS FOR LEAKS *SEE BACKUP
 FOR POINTS OF VISUAL INSPECTION
 10 TIGHTEN AND INSPECT LEAKING CONNECTION

QT 408 1 WALK *10 STEPS
 2 UNPACK PARTS
 3 INSPECT PARTS *5 EYE MOTIONS
 4 PLACE SINK IN POSITION FOR ACCESS (SINK ON FLOOR)
 5 GET AND PLACE BASKET *2 OCCURRENCES
 6 REMOVE NUT FROM ASSEMBLY BY HAND AND LAY ASIDE
 7 REMOVE WASHERS FROM ASSEMBLY AND LAY ASIDE *2 WASH
 ERS
 8 OPEN AND CLOSE CAN OF PLUMBERS PUTTY
 9 REMOVE PUTTY FROM CAN AND ROLL INTO ROPE SHAPE
 10 APPLY PUTTY AROUND BOTTOM OF RIM OF BASKET *4 OCCU
 RRENCES OF REFERENCE EQUALS TIME OBSERVED
 11 PRESS PUTTY IN PLACE *8 OCCURRENCES
 12 INSERT STEM OF BASKET INTO DRAIN HOLE IN SINK
 13 APPLY PRESSURE TO SEAT BASKET IN PLACE *10 OCCURRE
 NCES
 14 SELECT PROPER WASHER *2 OCCURRENCES OF REFERENCE
 15 PLACE WASHERS ON STEM OF BASKET *2 OCCURRENCES
 16 GET AND POSITION LOCKING RING TO THREADED STEM OF
 BASKET
 17 RUN DOWN LOCKING RING ON THREADED STEM BY HAND
 18 GET AND ASIDE 2 WRENCHES *4 OCCURENCES: 2 WRENCHES
 ; 2 TIMES EACH
 19 TIGHTEN NUT WITH 2 WRENCHES *2 OCCURRENCES OF REFE
 RENCE EQUALS EFFORT OBSERVED
 20 REMOVE EXCESS PUTTY FROM BASKET ASSEMBLY AND WIPE
 AREA WITH CLOTH *1/3 OCCURRENCE OF REFERENCE EQUAL

QT 409 1 WALK *10 STEPS
2 UNPACK PARTS
3 INSPECT PARTS *10 EYE MOTIONS
4 PLACE SINK IN POSITION FOR ACCESS (SINK ON FLOOR)
5 OPEN AND CLOSE CAN OF PLUMBERS PUTTY
6 SCOOP OUT AND ROLL PLUMBERS PUTTY INTO ROPE SHAPE
WITH HANDS *3 OCCURRENCES
7 PLACE PUTTY ON SINK IN AREA WHERE FAUCET ASSEMBLY
IS TO BE INSTALLED *7 OCCURRENCES OF REFERENCE EQU
8 PLACE FAUCET ASSEMBLY ON SINK
9 REPOSITION FAUCET ASSEMBLY TO ALIGN *OBSERVED 5 OC
CURRENCES
10 INSPECT LOCATION OF FAUCET ASSEMBLY *6 OCCURRENCES
OBSERVED
11 INSTALL 2 NUTS BY HAND AND TIGHTEN USING WRENCH TO
SECURE FAUCET ASSEMBLY TO SINK
12 REMOVE EXCESS PUTTY FROM FAUCET BASE WITH TOOL AND
WIPE AREA WITH RAG
13 BODY MOTIONS *3 OCCURRENCES

QT 410 1 WALK
2 UNPACK PARTS
3 INSPECT PARTS *3 OCCURRENCES OF REFERENCE
4 SET PARTS ASIDE
5 PLACE SINK IN POSITION FOR ACCESS (SINK ON FLOOR)
6 GET AND POSITION NUT TO ACCESS FACE
7 OPEN AND CLOSE CAN OF PLUMBERS PUTTY *1/4 OCCURREN
CE OF REFERENCE
8 ACCESS PLUMBERS PUTTY AND ROLL INTO ROPE SHAPE *1/
4 OCCURRENCE OF REFERENCE
9 PLACE PUTTY TO FACE OF NUT
10 PRESS PUTTY IN PLACE *4 OCCURRENCES OF REFERENCE
11 GET SPRAYER HOSE HOUSING AND INSERT THREADED STEM
INTO HOLE IN SINK LEDGE
12 POSITION NUT TO THREADS ON STEM OF HOSE HOUSING; R
UN DOWN NUT ON THREADS; TIGHTEN NUT WITH WRENCH
13 REMOVE EXCESS PUTTY FROM NUT WITH FINGER
14 GET AND POSITION SPRAYER HOSE FOR INSTALLATION
15 INSERT END OF HOSE ASSEMBLY INTO HOLE IN HOUSING
16 PULL HOSE THROUGH HOUSING
17 GET AND ASIDE PIPE THREAD TAPE
18 WRAP THREADS OF CONNECTION ON END OF HOSE WITH PIP
E THREAD TAPE
19 INSTALL HOSE TO FAUCET CONNECTION
20 UNTWIST HOSE AS CONNECTION IS TIGHTEN *10 OCCURREN
CES
21 GET AND ASIDE WRENCH
22 ADJUST SIZE OF WRENCH
23 TIGHTEN CONNECTION WITH WRENCH
24 BODY MOTIONS

QT 411 1 GET AND POSITION SINK IN HOLE IN COUNTER TOP
 2 WALK
 3 BEND AND ARISE
 4 ALIGN SINK
 5 MEASURE SINK ALINEMENT.
 6 UNPACK CLAMPS
 7 INSTALL CLAMPS TO SECURE SINK TO COUNTER
 8 INSPECT
 9 APPLY CAULKING

QT 412 1 INSTALL THREADED ADAPTER OF WATER SUPPLY LINE
 2 INSTALL SHUTOFF VALVE ON THREADED ADAPTER

QT 413 1 INSTALL WATER SUPPLY LINE FROM SHUTOFF VALVE TO FAUCET CONNECTION

QT 414 1 WALK TO ACCOMPLISH TASK
 2 UNPACK PLUMBING PARTS *3 OCCURRENCES
 3 BODY MOTIONS *3 OCCURRENCES
 4 POSITION TAILPIECE TO STRAINER BASKET AND HAND TIGHTEN NUT TO SECURE TAILPIECE TO STRAINER 2 OCCURRENCES
 5 POSITION "T" TO TAILPIECE AND HAND TIGHTEN NUT TO SECURE TAILPIECE TO "T" 1 OCCURRENCE (FIRST SINK)
 6 INSTALL EXTENSION TO "T" 1 OCCURRENCE
 7 POSITION "P" TRAP TO EXTENSION PIPE AND HAND TIGHTEN NUT TO SECURE EXTENSION PIPE TO "P" TRAP 1 OCCURRENCE
 8 POSITION ELBOW PIPE TO WALL STUB AND HAND TIGHTEN NUT TO SECURE ELBOW PIPE TO STUB 1 OCCURRENCE
 9 POSITION ELBOW PIPE TO "P" TRAP AND HAND TIGHTEN NUT TO SECURE ELBOW PIPE TO "P" TRAP 1 OCCURRENCE
 10 POSITION ELBOW PIPE TO TAILPIECE (SECOND SINK) AND HAND TIGHTEN NUT TO SECURE TAILPIECE ELBOW PIPE 1
 11 POSITION ELBOW PIPE (SECOND SINK) TO "T" AND HAND TIGHTEN NUT TO SECURE ELBOW PIPE TO "T" 1 OCCURRENCE
 12 ADJUST ASSEMBLY *1 OCCURRENCE
 13 GET AND ASIDE WRENCH *1 OCCURRENCE
 14 TIGHTEN CONNECTIONS WITH WRENCH *9 CONNECTIONS
 15 GET AND ASIDE PIPE THREAD TAPE *2 OCCURRENCES
 16 WRAP THREADS WITH PIPE THREAD TAPE *2 CONNECTIONS: EXTENSION PIPE; WALL STUB PIPE *(DRAIN LINE)
 17 MEASURE AND CUT COPPER PIPE TO LENGTH WITH TUBING CUTTER *3 OCCURRENCES: 2-TAILPIECES; 1-ELBOW PIPE

QT 415 1 INSTALL SHUTOFF VALVE ON WATER SUPPLY STUB

QT 416 1 INSTALL SHUTOFF VALVE ON THREADED ADAPTER

QT 417 1 GET AND POSITION TUBING CUTTER TO MARK
 2 CUT COPPER PIPE
 3 DISCARD PIECE OF PIPE CUT OFF
 4 LAY ASIDE TUBING CUTTER

QT 418 1 OPEN AND CLOSE CAN, PRY TYPE.

QT 450 1 TAKE MEASUREMENT.
2 WALK
3 ON/OFF FORKLIFT.
4 POSITION FORKLIFT.
5 CLIMB UP/DOWN WORK PLATFORM.
6 PREP. BURN
7 BURN HOLES IN STEEL.
8 GET/ASIDE STEEL, 2 MEN.
9 PREP. GRIND STEEL.
10 GRIND STEEL.
11 LIFT STEEL, FORKLIFT.
12 ADDL LIFT STEEL, FORKLIFT.
13 POSITION STEEL, 2 MEN.
14 CLAMP STEEL.
15 PREP. TACK
16 TACK STEEL.
17 POSITION ANGLE.
18 TACK ANGLE.
19 GRIND WELDS.
20 BOLT STEEL AND TIGHTEN.

QT 998 1 MOVE AND CLIMB UP AND DOWN SCAFFOLDING PER 10 FT SECTION.

QT 999 1 STEPLADDER, SET-UP AND TAKE DOWN, PICK UP AND PUT DOWN, CARRY 20 PACES.
2 CLIMB UP OR DOWN STEPLADDER.●